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(Under CBCS)

MASS COMMUNICATION

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Electronic Media

CONTENTS:

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UNIT : 1

Unit Structure :

1.1 Introduction

Electronic media have had a massive impact on the communication process. Different forms of electronic media serve as a viable medium of communication wherein information is disseminated in the shortest possible time frame. Among the different forms of electronic media, radio and television have ushered in a revolutionary change in the society.

1.2 Objectives

After going through this unit, you will be able to

- *explain* the history of the growth and development of radio and television
- *discuss* the various committees associated with the growth and development of radio and television
- *look* into the concept of public service broadcasting

1.3 Growth and Development of Radio and Television

Growth and development of radio

The history of radio broadcasting is a fascinating journey that spans over a century, shaping the way information and entertainment are disseminated worldwide.

The discovery of radio waves by Heinrich Hertz in the late 19th century laid the foundation for the development of radio technology. Guglielmo Marconi is often credited with the practical application of radio communication, sending the first transatlantic radio signal in 1901.The early 20th century saw numerous inventors and engineers experimenting with radio technology. In 1906, Reginald Fessenden made the first audio broadcast, transmitting speech and music over the airwaves.Governments began to regulate radio broadcasting due to its increasing popularity and potential for interference. The Radio Act of 1912 in the United States was one of the first legislative efforts to address this. Commercial radio broadcasting began to emerge in the 1920s, with stations like KDKA in Pittsburgh starting regular programming.

The 1930s and 1940s are often referred to as the "Golden Age of Radio." This period saw the rise of radio as the dominant form of mass communication and entertainment. It featured popular radio shows, such as "The War of the Worlds" by Orson Welles and programs like "The Shadow" and "The Lone Ranger." Radio played a significant role during World War II, serving as a tool for propaganda and military communication. Both Allied and Axis powers used radio broadcasts to disseminate information, boost morale, and influence public opinion.

After World War II, radio continued to evolve with the introduction of FM broadcasting and the rise of music radio formats. Rock and roll played a pivotal role in shaping radio programming during the 1950s and 1960s, with stations like Radio Caroline in the UK and pirate radio stations challenging traditional broadcasting models. The late 20th and early 21st centuries witnessed the transition from analog to digital broadcasting. Digital radio technologies, such as HD Radio and DAB (Digital Audio Broadcasting), offered improved sound quality and additional features like data services and multiple channels.

The advent of the internet revolutionized radio broadcasting, enabling the rise of online streaming services and podcasting. Platforms like Spotify, Pandora, and Apple Music provide a wide range of audio content, while podcasts have become a popular medium for on-demand audio programming. Throughout its history, radio has played a central role in shaping culture, politics, and

society, serving as a powerful medium for entertainment, education, and communication.

One of the early efforts in radio broadcasting in India dates back to 1921 when the Times of India in collaboration with the Post and Telegraph Department broadcast from its Bombay office a special programme of music at the request of the then Governor, Sir George Llyod. Later on radio broadcasting took place in 1927 with the setting up of two privately owned transmitters in Bombay and Calcutta. After taking over the transmitters in 1930, the government started operating these under the Indian Broadcasting Company which took upon itself the pioneering task of starting regular broadcasting in India. After about three years, the Indian Broadcasting Company went into liquidation . However, the general public by then insisted on the continuance of the service and so the service was continued by the liquidator of the company at the expense of the Indian government. A separate office of the Controller of Broadcasting was created in March 1935 in which Lionel Fielden assumed charge as the first Controller of Broadcasting. In the year 1936, the name Indian Broadcasting was changed to All India Radio. Thereafter , the development of radio, was slow. India had nine AIR stations at the time of India's Independence of which Delhi, Calcutta, Bombay, Madras, Lucknow and Tiruchi came to India while Lahore, Peshawar and Dacca went to Pakistan. The All India Radio was rechristened as Akashvani in 1957. AIR presently has 414 radio stations with 600 transmitters to carry the programmes of both Home and External Services (145 Medium Wave, 48 Short Wave and 407 FM Transmitters).

Over the years, the radio broadcasting has expanded not only in terms of radio stations but also in terms of introduction of programmes to suit the changing socio-economic requirements of a developing nation. The National Channel was introduced as a comprehensive set-up for programmes to be broadcast across the country during those hours when most of other stations were silent. Local radio stations was also received very well which was quite a new phenomenon at that point of time. These stations were set up to meet the specific requirements of a small area. Thus, radio broadcasting in India followed a three tier system consisting of National Broadcasts, Regional Broadcasts and Local Broadcasts. The 1970s and 1980s are often regarded as the "golden era" of radio broadcasting in India. AIR produced a wide range of popular

programs, including drama, music, and educational content. VividhBharati, a popular Hindi-language service launched in 1957, became known for its music-based programming. The Indian government began to liberalize the radio broadcasting sector in the 1990s, allowing for the establishment of private radio stations. The first private FM radio station, Radio City, was launched in Bangalore in 2001. This paved the way for the proliferation of FM radio stations across the country, offering listeners a diverse range of programming options. In recent years, radio broadcasting in India has witnessed technological advancements and digitalization. Digital radio services like Digital Radio Mondiale (DRM) have been introduced, offering improved sound quality and additional features. Online streaming platforms and podcasting have also become popular alternatives for accessing radio content.

Throughout its history, radio broadcasting has remained a vital medium for news, entertainment, and cultural expression, adapting to technological advancements and changing societal needs.

Check Your Progress

Question 1 : In which year was the name Indian Broadcasting was changed to All India Radio?

Question 2 : Who was the first Controller of Broadcasting in India?

Growth and development of television

The history of television is a fascinating journey that has transformed the way people consume information and entertainment across the globe.

The introduction of color television in the 1950s revolutionized the viewing experience. This period also saw the rise of television journalism, with programs like "CBS Evening News" and "Huntley-Brinkley Report" becoming influential sources of news.John Baird, a Scottish engineer is generally credited with the invention of television, who in 1924, in an improvised laboratory in his lodgings in Hastings, England succeeded in transmitting the form of pictures from one place to another. Thereafter, in 1927 , the American Telephone and Telegraph Company (AT & T) gave a demonstration

in which a speech by the US Secretary of Commerce, Herbert Hoover, was broadcast from Washington and watched in New York by a group of invited audience. On 2nd November, 1936, BBC initiated the first regular television service in the world . The onset of second world war led to a disruption in the television broadcasting which was ultimately resumed in 1946. The world's first colour broadcasts was started by the USA. The 'Eurovision networks' were established by 1955 linking the West European nations.

The launch of communication satellites in the 1960s enabled the distribution of television signals over vast distances, leading to the growth of international broadcasting. Cable television systems began to emerge, offering viewers access to a wider range of channels and specialized programming.

The General Conference of UNESCO which was held in New Delhi in 1956 decided to provide $ 20,000 to set up a pilot project in order to study the use of television as a medium of education and development. Gradually, television was introduced in India in 1959. In the early years of the development of television broadcasting Doordarshan played a prominent role as an agent of social change and development. In the 1970s Doordarshan Kendras were set up in many places like Bombay, Calcutta, Srinagar, Madras, Lucknow, Amritsar and Jalandhar.

Satellite Instructional Television Experiment was responsible for the expansion and development of television in the country. SITE was a one year project which was undertaken in 1975-76 to experiment with television through satellite communication to broadcast special programmes in six states consisting of 2400 villages. The project made its presence felt in the villages of Karnataka, Andhra Pradesh, Orissa, Madhya Pradesh, Bihar and Rajasthan. On 1st April, 1976 radio and television were separated. The launching of the multipurpose satellite, INSAT-1A marked the initiation of the National Programme relayed simultaneously from different centres. Coupled with the microwave linkage, INSAT helped Doordarshan to bring international events to the homes of the viewers. Soon after Doordarshan started with the operation of its second satellite INSAT-1B in six states – Andhra Pradesh, Orissa, Maharashtra, Gujarat, Bihar and Uttar Pradesh. In 1983, a special plan to expand television sector in the country was approved amounting to Rs. 68

crore. It looked into establishing High Power transmitters (10 KW) and Low Power transmitters(100 watt) in different parts of the country. The teletext service of Doordarshan known as INTEXT was started in November, 1985. It provided the viewers with news, rail and air timings and other important information.

1990s brought about liberalization in the Indian television industry, leading to the emergence of private satellite channels and cable television networks. This period saw the launch of channels like Zee TV, Star TV, Sony Entertainment Television, and others, offering viewers a wider variety of programming choices. The 2000s marked a boom in satellite television in India. The proliferation of satellite dishes and the availability of affordable cable and satellite TV packages led to a rapid increase in viewership. Reality shows, soap operas, and game shows gained immense popularity during this period.

In the 2010s, there was a shift towards digital television broadcasting and the adoption of high-definition (HD) technology. Additionally, the rise of over-the-top (OTT) streaming platforms like Netflix, Amazon Prime Video, and Hotstar provided viewers with on-demand access to a wide range of content.

India's linguistic and cultural diversity is reflected in its television landscape. Regional channels in languages such as Hindi, Tamil, Telugu, Bengali, and others cater to specific audiences, providing content tailored to their preferences and interests. The advent of smart TVs, streaming devices, and mobile apps has transformed the way Indians consume television content. Viewers now have the flexibility to watch their favourite shows anytime and anywhere.

Television has thus, played a significant role in shaping Indian society, influencing culture, politics, and entertainment, and continues to be a powerful medium for communication and expression in the digital age.

1.4 Various committees associated with the journey

Several committees have been associated with radio broadcasting over the years, playing key roles in shaping policies, regulations, and standards. Let us look at some of the important committees related to radio broadcasting in India :

(i) Broadcasting Committee (1927): This committee was established by the Government of India in 1927. Chaired by Sir John Sykes, this committee was instrumental in formulating the Indian Broadcasting (Radio) Act of 1930, which laid the foundation for broadcasting regulation in India.

(ii) Amery Committee (1930): Better known as the Indian Broadcasting Committee, this committee was formed under the chairmanship of Leo Amery . It was formed to review the functioning of the Indian Broadcasting (Radio) Act of 1930 and make certain recommendations for its improvement.

(iii) Sorley Committee (1944): This committee was appointed to review the future of broadcasting in India under the chairmanship of Sir Frederick Richard Sorley . The recommendations of the committee led to the establishment of the Broadcasting Corporation of India in 1948, which later became All India Radio.

(iv). Expert Committee on Mass Media (1977): This committee, chaired by Dr. H. Narasimhaiah, was constituted to examine various aspects of mass media, including radio broadcasting, and to make recommendations for its development in India.

(v) PrasarBharati Committee (1990): The PrasarBharati Committee, chaired by Dr. K.S. Sarma, was formed to recommend measures for the reorganization and restructuring of broadcasting in India. The recommendations of this committee led to the enactment of the PrasarBharati (Broadcasting Corporation of India) Act, 1990, which established PrasarBharati as an autonomous broadcasting corporation.

As far as television broadacsting is concerned , there are a number of committees that have played vital roles in shaping the policies, regulations, and structures governing television broadcasting in India, contributing to its growth and development over the years.

(i) First Television Committee (1954): This committee was appointed by the Government of India to study the feasibility of introducing television broadcasting in the country. Chaired by Dr. T.R. Subramaniam, it submitted its report in 1955, recommending the establishment of television broadcasting in India.

(ii) Broadcasting Review Committee (1957): Chaired by Justice G.D. Madgavkar, this committee was tasked with reviewing the

operations of All India Radio (AIR) and Doordarshan. Its recommendations led to the establishment of Doordarshan as a separate entity responsible for television broadcasting.

(iii) Working Group on Television Software and Broadcasting Policy (1983): Formed under the Ministry of Information and Broadcasting, this group was given the responsibility of formulating policies and guidelines for television broadcasting, including content standards and regulations.

(iv) Committee on Broadcasting (1993): This committee, chaired by P.N. Bhagwati, was constituted to examine various issues related to broadcasting, including television broadcasting. It submitted its report in 1995, making recommendations for the restructuring and modernization of the broadcasting sector in India.

(v) PrasarBharati Committee (1997): Chaired by Dr. M.S. Swaminathan, this committee was formed to review the functioning of PrasarBharati, India's public broadcasting corporation responsible for both radio and television broadcasting. Its recommendations aimed to strengthen PrasarBharati's autonomy and improve its efficiency.

(vi) Telecom Regulatory Authority of India (TRAI): While primarily focused on telecommunications, TRAI also regulates the broadcasting sector in India, including television broadcasting. It formulates regulations, tariffs, and guidelines to ensure fair competition and consumer protection in the television industry.

(vii) Standing Committee on Information Technology and Broadcasting (India): This parliamentary committee in India oversees matters related to information technology and broadcasting, including television. It examines bills, policies, and initiatives related to television broadcasting and makes recommendations to the government.

Stop to Consider

Chaired by Dr. M.S. Swaminathan, the PrasarBharati committee (1997) was formed to review the functioning of PrasarBharati, India's public broadcasting corporation responsible for both radio and television broadcasting. Its recommendations aimed to strengthen PrasarBharati's autonomy and improve its efficiency.

1.5 Concept of public service broadcasting.

Public service broadcasting (PSB) is a form of broadcasting that intends on serving the public interest by providing informative, educational, and culturally enriching content. Unlike commercial broadcasting, which is primarily driven by profit motives, public service broadcasting is funded through public funds, license fees, or a combination of public and private funding sources.This funding model allows them to operate independently of commercial pressures and focus on producing high-quality programming that serves the diverse needs and interests of the public.Public service broadcasters are often owned or controlled by the government or established as independent entities with a public service mandate. Public service broadcasters are guided by a mandate to provide programming that serves the public interest, including news and current affairs, educational content, cultural programming, and programming for minority or marginalized communities. They often have specific obligations to promote social cohesion, democracy, and cultural diversity.While public service broadcasters may receive funding from public sources, they are expected to maintain editorial independence and impartiality in their programming. This independence is essential for ensuring that their content remains free from political interference or commercial influence.Public service broadcasters also strive to ensure that their programming is accessible to all segments of society, regardless of socioeconomic status or geographic location. They also ensure that they fulfill their public service mandate effectively and efficiently.

Examples of well-known public service broadcasters include the British Broadcasting Corporation (BBC) in the United Kingdom, the Australian Broadcasting Corporation (ABC) in Australia, and the Canadian Broadcasting Corporation (CBC) in Canada.

1.6 Summing up

Different forms of electronic media more specifically radio and television has indeed changed the very landscape of the world of communication. In India too, it had a massive impact on the society whereby it acted as a major platform of social change and development. With the passage of time, new forms of communication platforms have been emerging leading to

convergence. This has in a way shortened the time needed to engage in any form of communication.

1.7 References and Suggested Readings

1. Aggarwal ,VirBala and Gupta, V.S (2002). Handbook of Journalism and Mass Communication. New Delhi : Concept Publishing Company.

2. Ahuja, B.N (2015). Theory and Practice of Journalism. New Delhi :Surjeet Publications

1.8 Model Questions

Q.1 : How has the growth and development of radio and television changed the communication scenario in India?

Q.2 : Do you think that the rise of electronic media have had a massive impact on the print media ? Give reasons in support of your answer.

1.9 Answer to check your progress

Answer to Question 1 : 1936

Answer to Question 2 : Lionel Fielden

Unit-2

Knowledge about Electromagnetic Spectrum, AM, FM, Community Radio, Internet Radio, HAM radio etc.

Unit Structure:

2.1 Introduction:

If you put a thin strip of paper in front of your mouth while you speak or in front of a speaker that is blaring music, you'll see the paper quivering. This is because the sound of our voive is a form of a wave that propagates through a medium, in this case, air. Our voice, which is made of audio waves, needs a medium like air or water to travel. However, there is another type of wave, which does not need a medium to propagate. This type of wave is called an electromagnetic wave.

Electromagnetic waves are created by the vibration of electric and magnetic fields, propagating through space at the speed of light. Examples of this wave include radio waves, microwaves, infrared radiation, visible light, ultraviolet radiation, X-rays, and gamma rays. This is why, we can see the sun and the stars, even though there is no medium of propagation in space- the light from the sun does not need a medium to reach our eyes.

In this unit, we shall learn about the various types of electromagnetic waves and how we manipulate radio waves to send signals from one place to another. We shall also learn about various

types of radio communication operations such as, FM radio, community radio and HAM radio.

2.2 Objectives:

This unit deals with the EM Spectrum, Amplitude and Frequency Modulation and various radio operations. After studying this unit , you will be able to-

- Define the electromagnetic spectrum and explain the types of EM waves
- Describe radio waves, its various subcategories and their applications in the field.
- Explain the spectrum of visible light
- Define Amplitude and frequency modulations and their applications
- Explain the goals of various radio communication operations such as community radio, Internet radio and HAM

2.3 The electromagnetic spectrum

The electromagnetic (EM) spectrum is the range of all types of electromagnetic radiation. Radiation is energy that travels and spreads out as it goes – the visible light that comes from the sun or the light bulb at our house and the radio waves that is broadcast from a radio station are examples of electromagnetic waves. The other types of EM radiation that make up the electromagnetic spectrum are microwaves, infrared light, ultraviolet light, X-rays, and gamma rays.

Regions of the Electromagnetic Spectrum

Listed below are the approximate wavelength, frequency, and energy limits of the various regions of the electromagnetic spectrum.

	Wavelength (m)	Frequency (Hz)	Energy (J)
Radio	$> 1 \times 10^{-1}$	$< 3 \times 10^{9}$	$< 2 \times 10^{-24}$
Microwave	1×10^{-3} - 1×10^{-1}	3×10^{9} - 3×10^{11}	2×10^{-24}- 2×10^{-22}
Infrared	7×10^{-7} - 1×10^{-3}	3×10^{11} - 4×10^{14}	2×10^{-22} - 3×10^{-19}
Optical	4×10^{-7} - 7×10^{-7}	4×10^{14} - 7.5×10^{14}	3×10^{-19} - 5×10^{-19}
UV	1×10^{-8} - 4×10^{-7}	7.5×10^{14} - 3×10^{16}	5×10^{-19} - 2×10^{-17}
X-ray	1×10^{-11} - 1×10^{-8}	3×10^{16} - 3×10^{19}	2×10^{-17} - 2×10^{-14}
Gamma-ray	$< 1 \times 10^{-11}$	$> 3 \times 10^{19}$	$> 2 \times 10^{-14}$

Fig : the EM spectrum with wavelength frequency and energy range(Source: NASA)

The EM spectrum is a continuum of all electromagnetic waves arranged according to their frequency or wavelength. Each type of electromagnetic radiation has its own unique properties and applications, ranging from radio waves with the longest wavelengths and lowest frequencies to gamma-rays with the shortest wavelengths and highest frequencies.

- Radio waves: Radio waves are the longest wavelength and lowest frequency electromagnetic waves. The wavelength range of radio waves is 100 km to 10 cm. and the frequency range is less than 3 Giga Hertz. They are widely used in radio and television broadcasting, as well as in various communication systems, including radios, cellular phones, and wireless networks. Radio waves are also emitted by stars and gases in space, providing valuable information for astronomers studying celestial objects.
- Microwaves: Microwaves are shorter in wavelength than radio waves and have higher frequencies. The wavelength range of microwaves is 10 cm to 1 μm (micrometer). and the frequency range is 3 gigahertz to 3000 gigahertz. They are primarily used in microwave ovens for cooking and heating food, as well as in radar systems for detecting and tracking objects. In astronomy, microwave radiation is used to study the structure of nearby galaxies and the cosmic microwave background radiation, which is a relic of the Big Bang.
- Infrared waves: Infrared radiation, often referred to as infrared light, has a longer wavelength than visible light but shorter than microwaves. It is emitted by warm objects and is used in night vision goggles, which pick up the infrared light emitted by our skin and other objects with heat. In space, infrared light helps astronomers map the dust between stars and study the formation and evolution of galaxies.
- The visible light: Visible light is the portion of the electromagnetic spectrum that our eyes can detect. It is emitted by various sources, including fireflies, light bulbs, and stars. Visible light is essential for human vision and plays a crucial role in our perception of the world around us.
- UV radiation: Ultraviolet (UV) radiation has a shorter wavelength than visible light but longer than X-rays. It is emitted by the Sun and is the reason why our skin tans and burns when exposed to excessive UV radiation. In

astronomy, "hot" objects in space, such as stars and active galactic nuclei, emit UV radiation, which provides valuable information about their properties and behavior.

- X-rays: X-rays have shorter wavelengths and higher frequencies than UV radiation. They are widely used in medical imaging, such as in dental and airport security screenings, to see through objects and detect internal structures. In astronomy, hot gases in the Universe, such as those found in supernova remnants and the accretion disks around black holes, emit X-rays, allowing astronomers to study these extreme environments.
- Gamma Rays: Gamma rays are the highest-energy form of electromagnetic radiation, with the shortest wavelengths and highest frequencies. They are used in medical imaging, such as in gamma-ray imaging techniques like positron emission tomography (PET) scans, to detect and monitor various medical conditions. In astrophysics, the biggest generators of gamma rays are the most extreme environments in the Universe, including supernova explosions, active galactic nuclei, and the intense magnetic fields around neutron stars and black holes.

The study of the electromagnetic spectrum has led to numerous scientific discoveries and technological advancements across various fields. The applications of electromagnetic waves in fields such as communications, medical imaging, and remote sensing are important to advance our understanding of the world and advance scientific exploration. Additionally, by analyzing the different types of electromagnetic radiation emitted by celestial objects, astronomers can gain insights into their composition, temperature, and other properties.

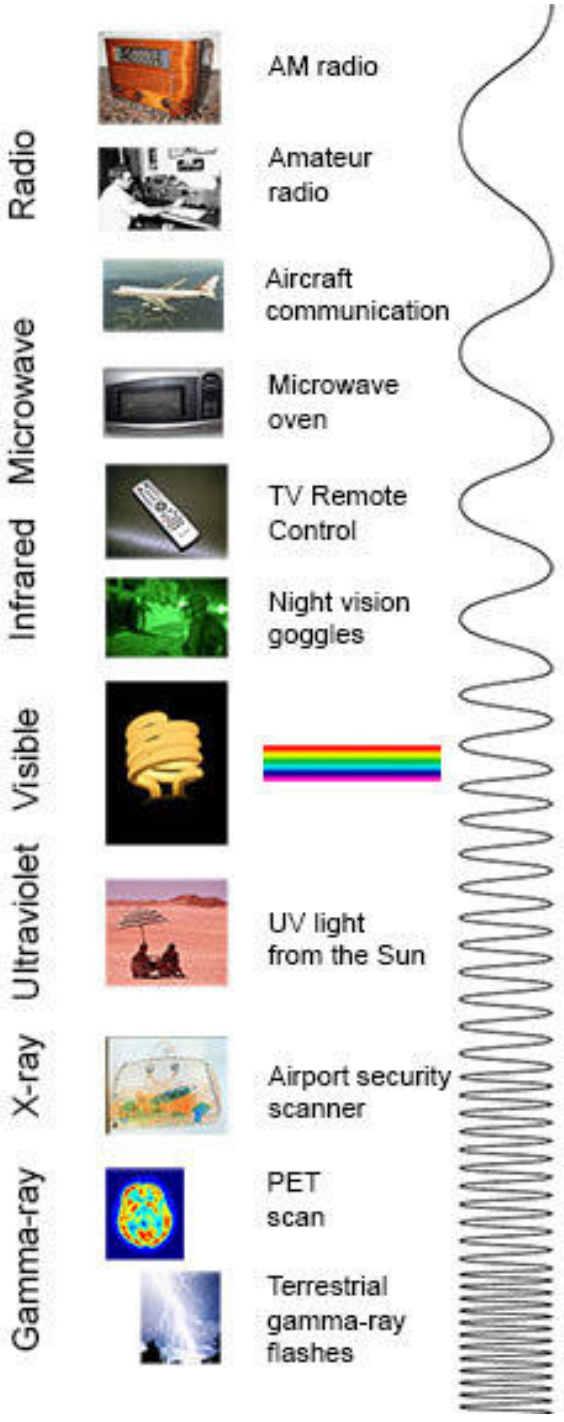

Fig :The electromagnetic spectrum from lowest energy/longest wavelength (at the top) to highest energy/shortest wavelength (at the bottom). (source: NASA's Imagine the Universe)

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end of the unit

Q.1. why do we see the sun but not hear the sound of the burning gas and explosions it consists of?

Q.2. what is the EM spectrum.

2.3.1 The visible spectrum

Visible light is the narrow segment of the electromagnetic spectrum that is detected by the human eye. This range of wavelengths, spanning from approximately 400 nanometers (nm) to 750 nm, is the certain part of the vast electromagnetic spectrum which allows us to perceive the world around us through the sense of sight. (A nanometer is 10^{-9} m, about one million times smaller than a millimeter.) The visible light spectrum contains the range of colours that our eyes can see. It includes all the colors of the rainbow – red, orange, yellow, green, blue, indigo, and violet. These colours are created by different wavelengths of light. The wavelengths of visible light are quite small, ranging from about 400 nanometers (nm) for violet light to 700 nm for red light.

The production of visible light is a result of the vibrations and rotations of atoms and molecules, as well as electronic transitions within these fundamental particles. When atoms and molecules absorb energy, they become excited, and when they release this energy, they emit it in the form of electromagnetic radiation, including visible light. The receivers or detectors of light, such as our eyes and various optical instruments, utilize these electronic transitions to detect and respond to the incoming light.

The colors we see in the world around us are caused by different materials absorbing and reflecting specific wavelengths of visible light. For example, a leaf appears green because it reflects the green wavelengths of light and absorbs the other colors.

The different colors we see are determined by the wavelength of the light. At the lower end of the spectrum, red light has the longest wavelengths and lowest frequencies, while at the higher end, violet light has the shortest wavelengths and highest frequencies. The rest of the colors we see – orange, yellow, green, blue, and indigo,

respectively in terms of having progressively shorter wavelengths and higher frequencies, fall in between these two extremes, as shown in the figure below.

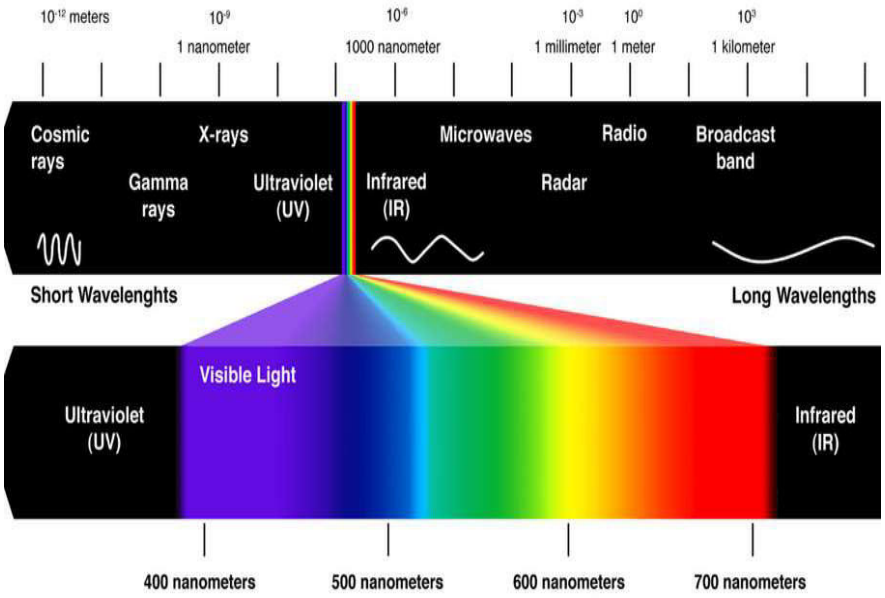

Fig: The visible light spectrum (source: Jeff Mitros)

The sun is our primary source of visible light. Interestingly, however, the sunlightdoes not have an equal distribution across the entire visible spectrum. The EM radiation from the Sun peaks in the visible part of the spectrum, but it is more intense in the red and orange wavelengths than in the violet and blue wavelengths. This uneven distribution of wavelengths is what gives the Sun its characteristic yellowish appearance to our eyes.

Stop to consider:

- Electromagnetic wave is a type of wave that does not require a medium to travel through, unlike sound waves which require a material medium like air or water.
- Radio waves, visible light , x-rays and gamma rays all fall inside the EM spectrum
- The main source of visible light on Earth is the Sun. The Sun emits light across the entire visible spectrum, but it appears yellowish to our eyes because it gives off more red, orange, and yellow light than blue and violet light.
- The visible light spans only from 400nm to 700nm

2.3.2 The radio spectrum

Radio waves, are broadly defined as the electromagnetic wave produced by currents in wires and circuits, and their name derives from their most common use as a carrier of audio information, such as in radio broadcasting. However, radio waves are not limited to their use in radio communication. They are produced by various astronomical phenomena, and their study has revealed much about the nature of the universe on the largest scales. For example, radio waves from outer space are created by events such as the formation of stars, the collisions of galaxies, and the activity of supermassive black holes at the centers of galaxies.

Radio waves are classified as having the longest wavelengths and the lowest frequencies in the electromagnetic spectrum. Considering the microwave range as a subcategory of the radio range, the radio spectrum ranges from about 1 micrometer to 10 kilometers and above in wavelength. This broad category of radio waves is further divided into many subcategories based on their specific wavelengths and frequencies.

One of the most familiar subcategories of radio waves is microwaves, which have wavelengths ranging from about 10 cm to 1 μm. Microwaves are widely used in various applications, including microwave ovens for cooking, radar systems for detecting and tracking objects, and wireless communication technologies such as Wi-Fi and Bluetooth.

Another subcategory of radio waves is the range used for AM (Amplitude Modulation) and FM (Frequency Modulation) radio broadcasting. These waves have wavelengths ranging from about 1 meter to several hundred meters and are used to transmit audio signals over long distances, allowing radio stations to broadcast their programs to listeners.

Similarly, the radio wave subcategories used for cellular telephones and television broadcasting have specific wavelength ranges tailored to their respective applications. Cellular networks rely on radio waves to transmit voice and data signals between mobile devices and cell towers, while television broadcasting uses radio waves to transmit video and audio signals to television receivers.

The study of radio waves has also played a crucial role in advancing our understanding of the universe. Radio astronomy, a branch of

astronomy that studies celestial objects by analysing their radio emissions, has provided invaluable insights into the formation and evolution of galaxies, the nature of pulsars and quasars, and the remnants of supernova explosions.

Extremely low frequency (ELF) radio waves of about 1 kHz are used to communicate with submerged submarines. The ability of radio waves to penetrate salt water is related to their wavelength (much like ultrasound penetrating tissue)—the longer the wavelength, the farther they penetrate. Since salt water is a good conductor, radio waves are strongly absorbed by it, and very long wavelengths are needed to reach a submarine under the surface

Stop to consider:

- The radio wave is generated by moving currents in wires and circuits. Radio waves are also created in outer space by various astronomical phenomena like pulsers and supernova explosions.
- Not only radio and TV, but cellular networks also rely on radio waves to transmit voice and data signals between mobile devices and cell towers
- TV channels utilize frequencies in the range of 54 to 88 MHz and 174 to 222 MHz. (The entire FM radio band lies between channels 88 MHz and 174 MHz.) Meaning, The TV video signal is AM, while the TV audio is FM.

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end of the unit

Q.3. What are the sources of Radio waves

Q.4. What are ELF and VHF radio waves. Give examples of their applications.

2.4 Amplitude and Frequency Modulation

In radio transmission, a microphone converts sound waves into electromagnetic waves that are then picked up by a receiving aerial and fed to a loudspeaker, which converts them back into sound waves.

There are two main ways of doing this- Amplitude Modulation (AM) used for long and medium wave broadcasts and Frequency

Modulation (FM) used for VHF (Very High Frequency) broadcasts. Modulation is the process by which the information to be transmitted is impressed on the radio wave, which serves as a carrier. In AM the strength or intensity of the radio frequency carrier is varied in accordance with the information, while in FM the frequency of the carrier is varied instead of its amplitude.

AM sound needs a band width of 20 kHz, while high quality FM requires a band width of 180 kHz for transmission.

AM radio waves are used to carry commercial radio broadcasts in the frequency range from 540 to 1600 kilohertz (kHz). AM stands for "amplitude modulation," which means that the amplitude or strength of the radio wave is varied or changed by the audio signal being transmitted. The radio station has a basic frequency, let's say 1530 kHz, and this frequency remains constant. However, the amplitude or intensity of this wave is made to increase and decrease according to the audio signal, like the sound of a person's voice or music.

A radio receiver is tuned to have the same frequency as the radio station's carrier wave, which allows it to pick up that specific signal while ignoring other frequencies. The radio's circuitry is designed to detect and respond to the variations in the amplitude or strength of the carrier wave. These variations are then used to reproduce the original audio signal, which is amplified and played through the radio's speaker or recorded.

FM radio waves are also used for commercial radio broadcasts, but they operate in a different frequency range of 88 to 108 megahertz (MHz). FM stands for "frequency modulation," which means that the frequency of the radio wave is varied or changed by the audio signal being transmitted. In this case, the radio station has a basic frequency, let's say 105.1 MHz, and this frequency is constantly changing or being modulated by the audio signal. The amplitude or strength of the wave remains constant, but the frequency changes.

Television broadcasts also use electromagnetic waves, but they require a larger range of frequencies because they need to carry both visual and audio information. TV channels use frequencies in the range of 54 to 88 MHz and 174 to 222 MHz, which are called VHF (very high frequency) channels. The range between 88 MHz and 174 MHz is used by FM radio stations. Additionally, there are UHF

(ultra-high frequency) TV channels that use an even higher frequency range of 470 to 1000 MHz.

One benefit to these long AM wavelengths is that they can go over and around rather large obstacles (like buildings and hills), just as ocean waves can go around large rocks. FM and TV are best received when there is a line of sight between the broadcast antenna and receiver, and they are often sent from very tall structures. FM, TV, and mobile phone antennas themselves are much smaller than those used for AM, but they are elevated to achieve an unobstructed line of sight.

2.4.1 What is Amplitude Modulation

Amplitude modulation, or AM, is a modulation technology mainly used for radio carrier wave-based message transmission. In this process, the amplitude of the carrier wave is modified in accordance with the message signal, such as an audio signal, which is known as the modulating signal.

The mechanism of AM involves a complex interaction between the modulating waves and the carrier signals. The signal is encoded for transmission by varying the amplitude of the carrier wave in minute increments that correspond to the modulating signal. This means that the height or magnitude of the carrier wave is altered to match the signal containing the information we want to send.

At the receiving end, the modulated wave undergoes the demodulation process, that essentially reverses the modulation, extracting the message signal from the varying amplitude of the received carrier wave.

To understand the AM process in simpler terms, let us imagine a constant radio wave (the carrier wave) with a fixed amplitude. When we want to transmit a message, such as an audio signal, the amplitude of this carrier wave is made to vary in accordance with the audio signal. The peaks and valleys of the audio waveform are represented by corresponding increases and decreases in the amplitude of the carrier wave. This modulated carrier wave, with its varying amplitude, is then transmitted over the airwaves. The AM process is represented in the figure below.

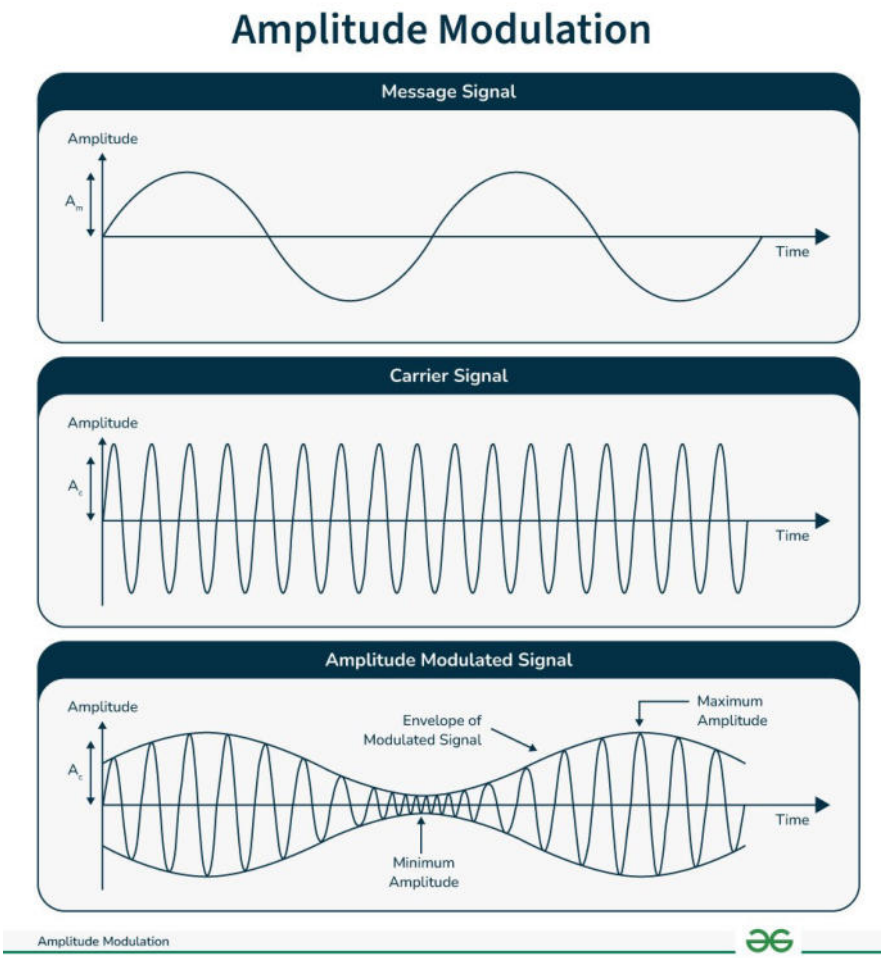

Fig: the amplitude modulation process (source geeksforgeeks.org)

At the receiving end, a tuned radio receiver picks up this modulated carrier wave. The receiver's circuitry is designed to detect and respond to the variations in the amplitude of the carrier wave. These amplitude variations are then used to recreate the original audio signal, which can be amplified and played through a speaker or recorded.

The key advantage of AM is its simplicity and the ability to transmit signals over long distances. However, AM signals are more susceptible to interference and noise compared to other modulation techniques like frequency modulation (FM). Despite this limitation, AM remains widely used for radio broadcasting, particularly for AM radio stations and certain long-range communication applications. The most commonplace applications of Amplitude Modulation process are-

- AM modulation is commonly used to broadcast radio signals, particularly for AM radio stations.
- AM is extensively utilized in shortwave radio communication, especially for multinational broadcasts.
- AM is utilized in aviation communication systems, including air traffic control and aircraft-to-aircraft communication.
- AM modulation is used in two-way radio communication systems such as Citizen Band (CB) radios, Emergency Communication Systems, and Walkie-Talkies.

Stop to consider:

- A carrier wave is a steady waveform (usually a sine wave) that is modulated with an input signal to convey information.
- A modulating signal is the input signal that contains the information to be transmitted and is used to vary the carrier wave.
- Amplitude Modulation (AM) is a technique where the amplitude of the carrier wave is varied in proportion to the modulating signal.
- Frequency Modulation (FM) is a technique where the frequency of the carrier wave is varied according to the modulating signal.
- A modulated wave is the resultant waveform that carries the information after the carrier wave has been altered by the modulating signal.

2.4.2 Frequency Modulation

Frequency Modulation (FM) is a process of encoding information onto a carrier wave by varying its frequency. This technique was developed in 1930 by the American engineer Edwin Armstrong.

In the FM process, a modulated waveform is generated by changing the frequency of the carrier signal in response to changes in the amplitude of a modulating signal. The modulating signal, which can be an audio signal or any other information-carrying signal, causes the frequency of the carrier wave to shift up or down proportionally to its amplitude variations. The process of frequency modulation is shown in the figure below-

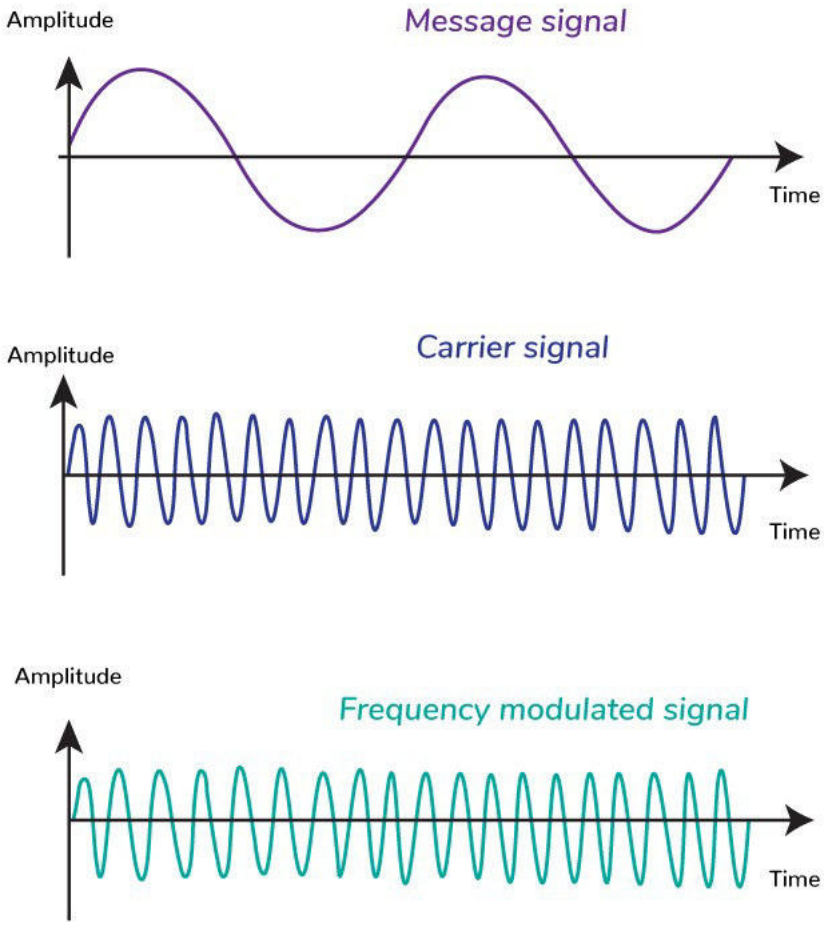

Fig: The Frequency Modulation Process (Source geeksforgeeks.org)

The result of this process is a waveform that has distinct characteristics from the original carrier wave. The shape of the modulated waveform is highly dependent on the characteristics of the modulating signal and the specific parameters of the FM modulation process. However, it is important to note that in this process, the amplitude and phase of the carrier wave remain unchanged.

Some of the advantages of Frequency modulation are -

- The Amplitude of FM wave remains constant over time. This helps in removing noise from received signal.
- FM is resistant to single strength variation.
- It enhances more efficient use of bandwidth.
- FM is used in radio broadcasting because FM is known for its superior quality compared to other methods of modulation.

- It improves and increase the capacity for communication. On the other hand, FM is not without disadvantages as well. some of the disadvantages of Frequency Modulation are -
- Modulation of wave increases the complexity in implementation.
- It requires specialized equipment and knowledge to implement, which makes it less accessible.
- Sometimes modulation leads to loss in quality of signal received, which reduces the clarity of transmitted data.
- FM has a large bandwidth which makes it costlier.

The FM process involves modulating the carrier wave's frequency with the modulating signal, resulting in a waveform with varying frequency but constant amplitude and phase. At the receiving end, specialized demodulation circuits are used to recover the original modulating signal from the frequency variations in the received waveform. Some of the applications of Frequency Modulation are-

- FM modulation is commonly utilized in commercial radio broadcasting, particularly among FM radio stations.
- FM modulation is used in mobile communication systems, including analog FM-based mobile networks and digital systems.
- FM modulation is widely utilized in wireless microphone systems designed for live events, broadcasting, and recording.
- FM modulation is utilized in radio navigation systems, such as VHF Omni-directional Range (VOR) and Instrument Landing System (ILS), which are used for aircraft navigation.

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end of the unit

Q.5. what are the applications of amplitude modulation?

2.4.3 Differences between AM and FM

Some key differences between Amplitude Modulation (AM) and Frequency Modulation (FM) are-

Characteristic	**Amplitude Modulation (AM)**	**Frequency Modulation (FM)**
Modulation Method	The amplitude of the carrier wave is varied according to the modulating signal.	The frequency of the carrier wave is varied according to the modulating signal.
Invention and development	The first successful audio transmission was carried out in the mid-1870s	Developed in 1930 by Edwin Armstrong, in the United States
Bandwidth	Narrower bandwidth compared to FM.	Wider bandwidth compared to AM.
Frequency range	The frequency range of AM radio varies from 535 to 1705 kHz	The frequency range of FM is 88 to 108 MHz in the higher spectrum
Noise Resistance	Susceptible to noise and interference that affects the amplitude of the signal	More resistant to noise and interference due to frequency variations.
Audio Quality	Lower audio quality compared to FM due to noise and interference	Higher audio quality with better fidelity and less noise.
Range and Penetration	Can travel longer distances but has poorer penetration through obstacles	Shorter range but better penetration through obstacles
Applications	Commonly used for AM radio broadcasting, amateur radio, and certain long-range communication systems.	Widely used for FM radio broadcasting, television audio, wireless communications (e.g., Wi-Fi, Bluetooth), and telecommunications

Complexity	Simpler modulation and demodulation circuits	More complex modulation and demodulation circuits
Power Efficiency	Less power-efficient compared to FM	More power-efficient compared to AM.

2.5 Community radio

Community radio is a concept that emerged as a means of empowering local communities by providing them with a platform to voice their concerns, share information, and promote their cultural identities. It is often referred to as "people's radio" or "democratic radio," as it aims to give a voice to those who are typically underrepresented or marginalized in mainstream media.

According to UNESCO, community radio is 'a medium that gives voice to the voiceless, that serves as the mouthpiece of the marginalized, and is at the heart of communication and democratic processes within societies.' This definition highlights the critical role that community radio plays in fostering inclusivity, participation, and democratic principles.As defined by Lewis (1995), "The community radio is a form of local radio which defines itself as an autonomous entity - and relies on the community for its survival without any commercial aims or objects." This emphasis on autonomy and non-commercial nature distinguishes community radio from other forms of broadcasting, ensuring that it remains focused on serving the needs and interests of the local community.

Community radio stations are typically confined to a small geographical area, often with a transmission range of no more than 20-30 kilometers. This limited coverage allows the station to cater specifically to the needs and concerns of a particular community, which may share common resources for livelihood, development issues, and cultural identities. Although these concerns may be localized, they are often connected to broader national and regional development goals.

Stop to consider:

- Community radio or people’s radio is a medium that gives voice to the voiceless, that serves as the mouthpiece of the marginalized, and is at the heart of communication and democratic processes within societies.

- Community radio stations are typically have a small range of no more than 20-30 kilometers, thus catering to the tastes of a small community
- Community radio provides a platform for community members to provide feedback on local development concerns, thus initiating a constructive dialogue at the local level

Community radio plays a vital role in empowering local communities and facilitating their participation in the development process. Here are some key importance of community radio:

1. **Contextualization of national development programs**: Community radio stations can help contextualize national development programs within the immediate community, making them more relevant and accessible to the intended beneficiaries. This allows for a better understanding and implementation of development goals at the grassroots level.
2. **Feedback and dialogue:** Community radio provides a platform for community members to provide feedback on local development concerns, enabling development agencies and authorities to engage in constructive dialogue and prioritize issues at the local level. This transparent process fosters trust and collaboration between communities and development actors.
3. **Continuous evaluation and improvement:** By allowing communities to evaluate program implementation, community radio facilitates continuous improvement and ensures that development inputs are more relevant and efficient. This iterative process makes development efforts more responsive to the needs of the communities they serve.
4. **Power-sharing and integration:** Community radio promotes power-sharing between central authorities and local communities, fostering an understanding of the roles and responsibilities of each stakeholder in the development process. This integration strengthens the overall national development system and builds trust among all parties involved.
5. **Self-reliance and resource mobilization:** Community radio encourages self-reliance by empowering communities to analyse their problems and propose solutions using locally available resources. This confidence in their abilities and

resources fosters a sense of ownership and commitment to the development process.

6. **Local interpretation of national media content**: Community radio stations can interpret and contextualize national media content, adding a local flavour and making it more accessible and relevant to community members who may not have access to mainstream media sources.
7. **Awareness and access to information**: By presenting programs based on national media content, community radio ensures that those who cannot afford or access mainstream media channels are still aware of national issues and programs, promoting inclusive access to information.
8. **Preservation of local cultures and languages**: Community radio provides a platform for preserving and promoting local cultures, languages, and traditions, ensuring that they are not overshadowed by national or global media narratives.

Overall, community radio plays a crucial role in facilitating grassroots participation, empowering local communities, and promoting inclusive and sustainable development by bridging the gap between national policies and local realities.

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end of the unit

Q.6. How does community radio contribute to development communication?

Q.7. describe the role community radio plays in preservation of folk culture.

2.6 Internet radio

Internet radio is an audio service that uses the Internet as a distribution medium of broadcasting instead of the traditional radio waves. The proper term used for internet radio is webcasting, as it is not actually broadcast through wireless signals. The first internet radio station is widely considered to be '*Radio HK,*' which started broadcasting in 1993, and was run by Carl Malamud, a computer

engineer, who saw the potential for using the internet as a broadcast medium.

One of the key advantages of Internet radio is its virtually unlimited options. With the ability for anyone with an internet connection to launch an online radio station, the diversity of content available is astounding. From niche genres and specialized topics to podcasts and talk shows, internet radio caters to every conceivable interest and preference. Unlike traditional radio, which follows a fixed program schedule and offers a generalized selection of content, online radio platforms allow listeners to customize their music preferences, receive tailored recommendations, and access content on-demand, at their convenience.

Another significant advantage of Internet radio is its superior audio quality. Internet-based radio broadcasts typically offer significantly higher sound quality than traditional FM, DAB, or TV broadcasts, ensuring that listeners can enjoy their favourite content with crystal-clear fidelity.

Moreover, internet radio stations often operate around the clock, broadcasting 24 hours a day, 7 days a week. This continuous availability means that listeners can access their preferred content whenever it suits them, without being bound by limited broadcasting hours or fixed program schedules. While internet radio may occasionally experience interruptions or delays due to fluctuations in internet connection speed, this is a small trade-off for the wealth of content and convenience it offers.

Internet radio has slowly revolutionized the way we consume audio content, breaking down geographical barriers and offering a diverse and personalized listening experience. With its global reach, superior audio quality, and vast content options, internet radio has become a preferred choice for many listeners seeking a tailored and enriching audio experience.

2.6.1 Difference between FM and Internet Radio

- FM radios usually broadcast regionally, while online radios are accessible worldwide.
- Online radio offers more options compared to FM radio because anyone with internet access can open an

internet radio station. The positive aspect is that internet-based radio broadcasts typically offer significantly higher quality than FM, DAB, or TV broadcasts, thus achieving the finest possible sound quality in radio.

- FM Radio offers a more generalized selection of programs compared to online radio. Online radio provides a diverse selection of music and various programs, including podcasts, and is more flexible. Furthermore, internet radio provides listeners with a personalized experience through customized music and tailored listening recommendations.
- FM broadcasting generally experiences fewer interruptions and delays, adheres to limited broadcasting hours, and follows a fixed program schedule. Online radio, on the other hand, might experience interruptions or delays due to fluctuations in internet connection speed. It usually broadcasts 24 hours a day, enabling listeners to access any program at their convenience.
- FM radios offer a well rounded schedule complete with music, features and drama, to cater to their audience bound by their geographical limit. Internet radios often specialize in particular topics or genres of music, and cater to a specific audience all over the world.

Stop to consider:

- Internet radio uses the Internet as a distribution medium instead of traditional radio waves.
- The proper term used for internet radio is webcasting, as it is not actually broadcast through wireless signals
- Webcasting allow listeners to customize their music preferences, receive tailored recommendations, and access content on-demand, at their convenience.

2.7 HAM radio

HAM radio, also known as Amateur radio, is a community of people that use radio transmitters and receivers to communicate with other Amateur radio operators. Amateur radio operators are often called ham radio operators or simply "hams" and frequently the public is

more familiar with this term than with the legal term Radio Amateur. The source of this nickname is for all practical purposes lost from the beginning. (hamradio.in, 2013)

Amateur (HAM) Radio is a hobby which barring emergency or disaster situations is used by ham radio operators for fun. Amateur operators talk to local friends over the radio waves using a hand-held transceiver, communicating digitally with packet radio to exchange personal messages or vital information in an emergency, talking to other hams anywhere in the world, or engaging in contests with other Radio Amateurs over the airwaves there is something for everyone. During emergency or disaster situations, whenever normal means of communications go out, HAM proves to be very useful. In situations like Tsunami, Tidal Waves, heavy flooding, earthquakes, HAM radio operators have been key to establish contact with the outside world.

There are hundreds of thousands of people all over the world who pursue this activity in their free time. With proper equipment, Ham operators can also bounce a signal to satellites to send signals to the other side of earth. Interestingly. Space stations also have ham radio equipment and many astronauts, who are licensed, take the time to make contacts with amateurs on earth. So, yes. If you are a Ham operator, you could talk to people who are in space.

Amateur Radio License in India are offered by the Wireless Planning & Coordination wing of Ministry of Communications, Govt. of India. However, with the privilege of being a ham radio operator, come responsibilities and rules for the operation of an amateur radio station. Specifically, there are a few things that hams are not allowed to do:

- Ham radio is a hobby. Ham operators cannot use their radio to earn money in any way.
- Ham radio operators cannot broadcast to the public. The transmissions are only meant to be between other operators.

DID YOU KNOW

- No one knows, why Amateur radio operators are called HAM. HAM is said to be the combined initials of famous scientists ‘Hertz, Armstrong, and Marconi’
- HAM is also known as ‘Home Amateur Mechanic’

- Actors Amitabh Bhachan, Kamal Hasan, Rajendra Prasad are HAMS. Former Prime Minister Rajiv Gandhi was a HAM.(NAIR Data)

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end of the unit

Q.6. Explain applications of HAM radio

Q.7. explain the difference between the setups of a traditional radio station and an internet radio station.

2.8 Summing Up

In this unit we have learned about the electromagnetic waves and the EM spectrum. The radio waves, the visible light and X-rays, gamma rays all fall in the EM spectrum. We have learned how the radio waves are modulated to send a signal. We have learned about both amplitude and frequency modulation. We have also learned about various radio communication operations such as Community radio, internet radio and HAM radio.

2.9 References and Suggested Readings

The AARL, HAM radio license manual, 5th ed.

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2.10 Model Questions

1. What role does the electromagnetic spectrum play in modern communication technologies?

2. Discuss the impact of different modulation techniques on the quality and reliability of radio communication.

3. Explain how advancements in radio technology have influenced other fields such as space exploration, navigation, and broadcasting.

2.11 Answers to check your progress

Ans to Q.1.

We see the Sun because it emits visible light which is an electromagnetic wave and can travel through the vacuum of space to reach our eyes. However, we don't hear the sound of the burning gas and explosions because sound needs a medium like air or water to travel through. Since space is a vacuum, it does not have a medium to carry the audio waves. Hence, while the Sun is loud up close, the vacuum of space ensures we only see its light and not hear the noise.

Ans to Q.2

The EM spectrum is a continuum of all electromagnetic waves arranged according to their frequency or wavelength. This includes everything from radio waves, which have long wavelengths and low frequency, to gamma rays, which have very short wavelengths and very high frequency. Visible light, which we see as colors, is just a small part of the EM spectrum. Other types include microwaves, infrared, ultraviolet, and X-rays.

Ans to Q.3

Radio waves are produced by a variety of natural and artificial sources Artificial or man-made sources of radio wave generate these waves through electronic circuits that oscillate at specific frequencies. The examples are broadcast radio and television stations, cell phones, Wi-Fi routers, radar systems, and satellites. However, radio waves are generated in natural sources too. Such natural sources include lightning and celestial objects like stars, galaxies, and the Sun, which emit radio waves as part of their electromagnetic radiation.

Ans to Q.4

ELF (Extremely Low Frequency) and VHF (Very High Frequency) radio waves are types of radio waves with different frequency ranges. ELF waves have very low frequencies, typically below 300 Hz. They can penetrate deep into water and Earth, making them useful for communication with submarines and for monitoring geological activities like earthquakes. VHF waves have higher frequencies, ranging from 30 MHz to 300 MHz. They are commonly used for FM radio broadcasts, television signals, and two-way communication systems like walkie-talkies. VHF waves travel well over short distances and can pass through obstacles better than higher-frequency waves.

Ans to Q.5

Amplitude Modulation (AM) is widely used in AM radio broadcasting, where audio signals are transmitted over long distances. AM is also used in aviation for communicating between pilots and air traffic control due to its long-range capabilities. Additionally, it's employed in certain types of data transmission and in two-way radios for communication in remote areas. AM signals can travel farther than other types, especially at night, making them useful for reaching rural or distant locations.

Ans to Q.6

There are many ways in which Community radio contributes to development communication-

1. Education: Offers educational programs on various topics, improving literacy and knowledge among listeners.
2. Social Change: Raises awareness about social issues and mobilizes community action for positive change
3. Local Information: Provides news and information relevant to the local community, including weather updates, health tips, and educational content.
4. Public Participation: Encourages community members to voice their opinions and participate in discussions, promoting civic engagement.
5. Cultural Preservation: Broadcasts local music, stories, and traditions, helping to preserve and promote cultural heritage.

Ans to Q.7

Community radio contributes in preserving folk culture by broadcasting local music, stories, and traditions. It provides a platform for local artists and storytellers to share their work, keeping traditional art forms alive. Community radio also records and archives cultural events and practices, ensuring they are not lost over time. By promoting local dialects and languages, it helps maintain linguistic diversity. Additionally, community radio fosters a sense of pride and identity among listeners, encouraging younger generations to learn about and continue their cultural heritage.

Ans to Q.8.

HAM radio is but a hobby that is used for personal communication between the operators, allowing them to talk to people around the world without relying on traditional communication networks. During emergencies, HAM radio operators provide crucial communication when other systems fail, helping coordinate rescue and relief efforts. HAM radio also supports scientific research by amateurs and professionals alike, facilitating experiments in areas like propagation and satellite communication. Additionally, it promotes international goodwill and cultural exchange, as operators from different countries connect and share experiences.

Ans to Q.9.

A traditional radio station and an internet radio station differ primarily in their broadcasting methods. A traditional radio station uses a transmitter and antenna to send radio waves over the air. This setup requires a physical location, expensive equipment, and a government license to operate on specific frequencies. In contrast, an internet radio station streams audio content over the internet. It needs a computer, microphone, internet connection, and streaming software. Internet radio stations don't need transmitters or antennas and can be set up at relatively lower costs. They also reach a global audience, unlike traditional stations limited by signal range.

UNIT : 3

Unit Structure:

3.1 Introduction

Film, also known as cinema or movie, referred to a series of movies images captured by camera shown in movie theatre or with the help of home theatre equipments like television, VCR or Digital screens. The name film derives from the photographic film used in camera to capture images. As one of the oldest forms of mass communication, it has undergone a remarkable journey, evolving from the silent era to the age of digital Dolby and techno-savvy films. Cinema, a marvel of the modern world, has truly come of age. Since its inception, cinema's popularity has never waned, capturing global audiences and reaching great heights of innovation and excellence, particularly in the Indian cinema. As a mass medium, film has proven itself unparalleled in terms of entertainment, appeal, and effectiveness.

3.2 Objectives

This unit is an attempt to give a brief overview of cinema as a mass medium. After going through this unit you will be able to,

- explain the evolution of cinema as a medium of moving images
- elucidate the evolution of Indian Cinema
- discuss cinema's inter-relation with society
- recognize different film schools across globe
- analyse the recent trends in film and changes

3.3 Birth of a Moving Image

Film predates the advent of radio and television, making a dramatic entrance that left audiences in awe. The impact of moving images was so profound that, during the silent era, people would flee the halls, convinced that the images were actually coming towards them. This unique characteristic of film, its ability to envelop the audience with spectacles and excitement, set it apart from other mass media.

Stop to Consider

The evolution of cinema stemmed from the concept of persistence of vision, where the human eye retains images briefly. Early innovations like the Zoetrope and Stroboscope utilized this principle to create the illusion of motion. Photography pioneers like Niepce and Muybridge laid the groundwork, leading to the invention of motion picture projectors and cameras by inventors like Edison and the Lumière brothers. The Lumière's Cinematographe marked a pivotal moment with the first public screening of a motion picture. Despite legal battles, their global impact solidified their status as cinema inventors. Their work influenced future filmmakers, shaping cinema into a transformative art and entertainment medium.

3.3.1 Concept of Persistence of Vision

Unlike inventions like the telephone or printing press, cinema's development was a result of numerous small inventions and ideas by

different individuals over time. The concept of persistence of vision, a basic idea rooted in physics, played a crucial role here. The human eye retains images even after they vanish from the field of vision, a phenomenon exploited in early visual toys like the Zoetrope. It created the illusion of motion by displaying a sequence of images or drawings rapidly. It consisted of a drum or a cylindrical shape with vertical slits cut into the sides. Inside the drum were a series of images or drawings placed sequentially along the inner circumference. When the drum was spun and viewed through the slits, the images appeared to animate, giving the illusion of motion.

Image 1: Zoetrope

The evolution of film-making experiments started with John Ayrton's toy of a parrot and cage- Thaumatrope , creating the illusion of a caged parrot using persistence of vision. Other inventors like Simon von Stampfer and Hugo Munsterberg contributed with their versions of devices utilizing this phenomenon. In 1834, Baron Franz Von Uchatius combined the Magic lantern projection with the Stroboscope, a significant invention in the history of cinema.

Image 2: Stroboscope

A stroboscope is a device used to make a cyclically moving object appear slow-moving or stationary by using rapidly flashing light. It works on the principle of persistence of vision, similar to how a zoetrope used to operate. The stroboscope emits brief flashes of light at regular intervals. When the flashing light synchronizes with the movement of the object, the object appears to freeze or move slowly, depending on the frequency of the flashes. This effect allows users to observe and analyze the motion of rapidly moving objects or mechanisms that might otherwise be too fast to perceive accurately.

The principle of persistence of vision has been crucial in the development of cinematic experiments, particularly in the realm of animation and stop motion. Early pioneers in animation, such as Émile Cohl and Winsor McCay, recognized and utilized the persistence of vision principle in their experiments with cartoons and stop-motion animation. They realized that by creating a sequence of slightly different images and displaying them rapidly, they could give the illusion of movement.

Émile Cohl's ‘Fantasmagorie’ (1908) is often regarded as one of the earliest animated films, featuring simple line drawings that move and transform through a series of frames. Winsor McCay's ‘Gertie the Dinosaur’ (1914) showcased more sophisticated animation techniques and storytelling, demonstrating the potential of animation as a form of entertainment.

Stop-motion animation, which involves physically manipulating objects or models frame by frame, also relies on persistence of vision to create the illusion of movement.

3.3.2 Precursors of Film

The roots of cinema can be traced back to the principles of photography. In the 1820s, Joseph Nicephore Niepce experimented with metal plates to capture fuzzy images, while William Henry Fox Talbot worked on photographic negatives in the 1830s. The experiments took a leap when Eadweard Muybridge used photography to study the racing of his own horses in 1872, paving the way for the Stop Motion technique of animation. It is known as ‘The Galloping Horse’.

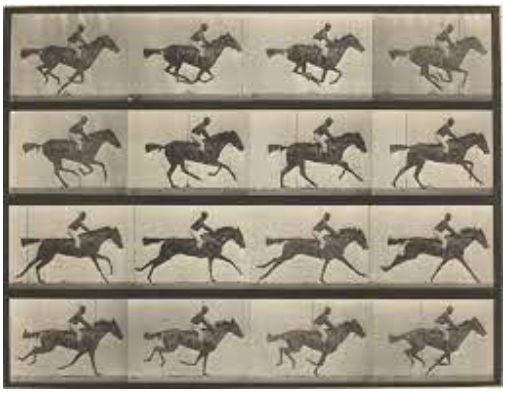

Image 3: The Galloping Horse

Etienne-Jules Marey replaced Muybridge's multiple cameras with a Chronophographic gun, a single camera capable of taking consecutive pictures of live action. The invention of the Chronophotographic gun further propelled the evolution of film.

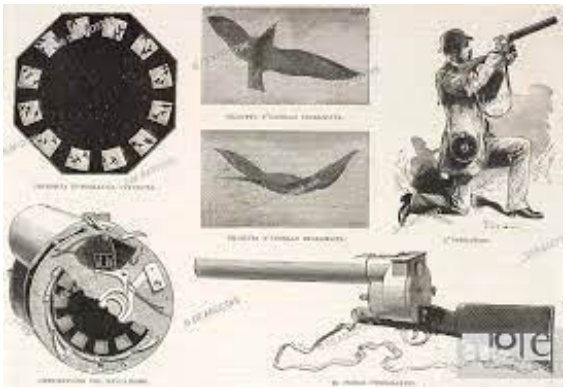

Image 4: Chronophotographic gun

In 1889, Eastman appropriated the invention of celluloid roll film, a crucial development for mass production in photography.

The German inventor Ottomar Anschütz presented Chronophotographic recordings in motion using the Elektrischen Schnellseher in 1887. The Elektrischen Schnellseher was a device capable of rapidly displaying a series of photographic images, creating the illusion of motion when viewed. Anschütz used the device to capture and display sequences of images, allowing viewers to see moving subjects, such as animals, people, or objects, frozen in motion.

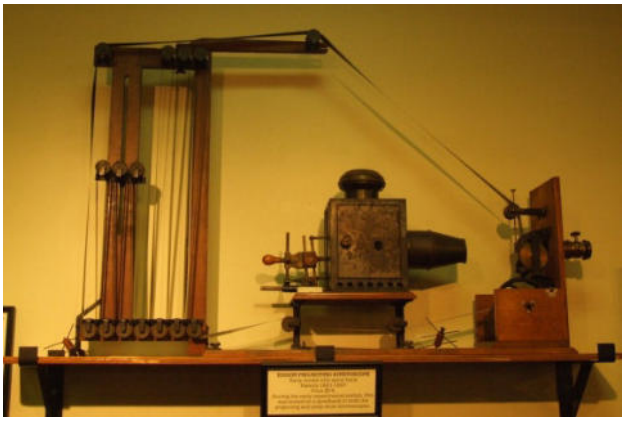

Image 5: Edison’s Kinetoscope

Thomas Edison, known for his phonographic parlors, assigned his assistant W.K. Laurie Dickson to develop a camera capable of capturing longer movements. Dickson synthesized Muybridge's and Marey's experiments, leading to the invention of the Kinetograph. Edison's Kinetoscope apparatus allowed one person at a time to watch short films through a peephole. In 1886, Oskar Messter designed a movie projector with a steady motion of the film roll.

3.3.3 Lumière Brothers and the Cinematographe

Continuing the experiments on motion pictures, French industrialist-innovators turn Filmmakers Auguste and Louis Lumiere developed a revolutionary device called the Cinematographe in the last decade of the 19th century. The Cinematographe was a groundbreaking apparatus that combined the functions of a movie camera, film printer, and film projector.

In December 28, 1895, the Lumière brothers conducted the first successful projection of a motion picture titled ‘Workers Leaving the Lumiere Factory - La Sortie des ouviers de l’usine Lumiere’.

This event, held in the basement of the Grand Café in Paris, marked a historic moment in the evolution of cinema.

While the Lumière brothers are often regarded as the inventors of cinema, Woodville Latham, an American inventor and entrepreneur, and his sons, Otway and Gray Latham in New York had already been screening boxing films to paying audiences from May 20, 1895, using their Eidoloscope projector. The Eidoloscope was one of the earliest projectors designed to exhibit motion pictures to audiences. It was based on the work of Eadweard Muybridge and Étienne-Jules Marey, who had pioneered methods of capturing and reproducing motion through sequential photography. The Lathams built upon these techniques to create a device capable of projecting moving images onto a screen.

Nevertheless, the Lumière brothers' achievement was considerable, as their Cinématographe became the first satisfactory apparatus for taking and projecting films. The Lumière brothers' Cinematographe played a pivotal role in shaping the future of cinema. It became the foundation for most cine cameras, with its claw mechanism becoming a standard feature. The Lumière brothers continued their cinematic endeavors, producing a series of short films, each around a minute long. These films showcased everyday scenes, from Auguste and his wife feeding their baby to the arrival of a train at La Ciotât in the south of France. Their contributions to cinema include not only technological innovations but also artistic and storytelling techniques. Their films were characterized by their simplicity and directness, often depicting slices of life and capturing authentic moments. Their work influenced filmmakers around the world and laid the foundation for the development of narrative cinema.

One notable film from the Lumière brothers, ‘L’arroseur arrose’, the title translates to "The Sprinkler Sprinkled" or "The Waterer

Watered" in English, is considered one of the earliest film comedies. In this film, a mischievous boy tricks a gardener into being soaked with water, leading to a chase and a spanking. The Lumière brothers not only pioneered the technical aspects of cinema but also explored its narrative potential with humor and storytelling.

3.3.4 Edison's Vitascope and Lumière's Global Impact

While Lumiere brothers came up with Cinematographe, on the other side of the Atlantic, Thomas Armat perfected a method of projecting kinetograph film shorts and named it as Phantoscope. In 1895, Armat and his partner Jenkins demonstrated the Phantoscope publicly, presenting short films to audiences in New York City.

Impressed by the Lumière brothers' success, Thomas Edison decided to abandon his own research and acquired Armat's projection machine. Edison named it the Vitascope, meaning "life-viewing" in Greek. The first Vitascope projection took place in New York on April 23, 1896. Armat later engaged in legal battles with Thomas Edison over the patents related to motion picture projectors, as Edison claimed that Armat's invention infringed upon his own patents. However, Armat eventually prevailed in court, securing recognition for his contributions to motion picture technology.

While Edison and Armat were busy doing their legal battles over rights, the Lumière brothers continued to make strides in the global cinematic landscape. They travelled across continents, showcasing their Cinematographe and arranging successful film projections. While Edison and Armat played a role in the early history of cinema, the Lumière brothers rightfully earned the title of inventors of cinema, marking the projection of motion pictures as a transformative moment in the history of visual storytelling. And

despite Edison's involvement, they are rightfully credited as the inventors of cinema, having conducted the first successful projection of a motion picture in 1895.

The Lumière brothers' experiments paved the way for future cinematic endeavors by filmmakers like Georges Méliès, Edwin S. Porter, D. W. Griffith, and Eisenstein, shaping the medium into a powerful and influential form of art and entertainment.

Check Your Progress

1. Who are considered the inventors of cinema, and what groundbreaking device did they develop?
2. How did the concept of persistence of vision contribute to the development of early cinema?
3. What were some of the precursors to film, and how did they influence the evolution of motion pictures?
4. What legal battles occurred between inventors in the early days of cinema, and what were they related to?
5. How did the Lumière brothers' contributions extend beyond their initial inventions, and what impact did they have on the global cinematic landscape?

3.4 Evolution of Indian Cinema

Indian cinema, including the mainstream Hindi industry based in Mumbai- often referred to as Bollywood, as well as the regional spaces, stands as a testament to the country's rich cultural tapestry, socio-political evolution, and artistic ingenuity. From its humble beginnings in the late 19th century to its present-day global recognition, Indian cinema has undergone a remarkable journey, evolving in form, content, and influence. Here, in this section, we will delve into the intricate phases of this evolution, tracing the

trajectory of Indian cinema from its nascent stages to its current position as a powerhouse of creativity and storytelling.

Stop to Consider

The evolution of Indian cinema spans from its inception with the Lumiere Brothers in 1896 to its contemporary diversity. Early filmmakers like Harishchandra Bhatvadekar paved the way for indigenous storytelling, while pioneers like V. Shantaram and Satyajit Ray challenged norms. The 1990s saw the rise of mainstream Bollywood, but the early 2000s witnessed a resurgence of nuanced storytelling. Emergence of independent filmmakers made the lines between art and commerce blur, reflecting India's cinematic journey through societal changes and global influences.

3.4.1 Early Origins and the Silent Era

The Lumiere Brothers, credited as the pioneers of cinema, ignited the flame of motion pictures in India in 1896, marking the genesis of one of the world's most prolific film industries. Their historic exhibition of six soundless short films at Bombay's Watson Hotel mesmerized audiences and laid the foundation for what would become a vibrant cinematic tradition. Among the earliest films, other than Lumiere Brothers, showcased were "Coconut Fair" and "Our Indian Empire," shot anonymously in 1897, which provided glimpses into daily life and the grandeur of British India.

In the subsequent years, the burgeoning Indian film scene saw a surge of interest, primarily through screenings of foreign ventures such as ‘The Death of Nelson’, ‘Call on the London Fire Brigade’, and ‘Noah's Ark’ in 1898. These films, although foreign in origin, reflected aspects of British imperialism that dominated the Indian landscape at the time. However, it wasn't long before indigenous

filmmakers began to emerge, eager to capture and portray their own narratives on celluloid.

Enter Harishchandra Bhatvadekar, affectionately known as Save Dada, who etched his name in history as the first Indian filmmaker. In 1899, armed with Edison’s Projecting Kinetoscope, he crafted two short films that offered a glimpse into India's burgeoning cinematic potential. Bhatvadekar's pioneering efforts paved the way for other Indian filmmakers to follow suit, each contributing their unique vision to the evolving medium.

Among these early filmmakers was F.B. Thanawalla, whose works like ‘Taboot Procession’ and ‘Splendid New Views of Bombay’ provided a window into the cultural tapestry of Indian life. Alongside Thanawalla, Hiralal Sen distinguished himself with his 1903 masterpiece, ‘Indian Life and Scenes’, capturing the essence of daily existence with authenticity and flair.

The turn of the century indicated significant milestones in Indian cinema's journey. In 1907, Jamshedjee Madan, a visionary Indian businessman, established the iconic Elphinstone Picture House in Calcutta (now Kolkata), a testament to the growing popularity and influence of cinema across the subcontinent. Subsequently, in 1916, the arrival of Universal Studios marked a pivotal moment, signifying Hollywood's recognition of India's burgeoning film market.

The interwar period witnessed a period of experimentation and innovation in Indian cinema, epitomized by P.C. Barua's groundbreaking film, ‘Devdas’, in 1935. Considered as the first film to utilize the studio system, ‘Devdas’ ushered in a new era of professionalism and organization in Indian filmmaking, setting the stage for future cinematic endeavours.

Technological advancements also reshaped the landscape of Indian cinema during this period, culminating in the production of colour films like ‘Sairandhri’ by Prabhat studio in 1933. While the film was processed and printed in Germany, its vibrant visuals captured the imagination of audiences, heralding a new chapter in Indian filmmaking history. Himanshu Rai co-founded the legendary Bombay Talkies studio in 1934 along with his wife, Devika Rani, and the German film director Franz Osten. Bombay Talkies became one of the leading film studios in India during the pre-independence era and made significant contributions to the development of Indian cinema. Under Rai's leadership, Bombay Talkies produced several critically acclaimed and commercially successful films. One of the most notable films produced by the studio was ‘Achhut Kanya’ (1936), directed by Franz Osten, which addressed social issues such as untouchability in India.

The evolution of Indian cinema from its nascent beginnings with the Lumiere Brothers to the advent of colour films exemplifies a rich tapestry of creativity, innovation, and cultural expression in the sub-continent. Through the efforts of pioneering filmmakers like Harishchandra Bhatvadekar, F.B. Thanawalla, P.C. Barua, Himanshu Roy etc, Indian cinema not only mirrored societal changes but also carved its own distinct identity on the global stage. As the industry continues to evolve, its legacy remains a testament to the power of storytelling and the enduring spirit of creativity.

3.4.2 Golden Age of Indian Cinema, Rise of Bollywood and Artistics Renaissance

The 1930s in Indian Cinema was characterized by pioneering filmmakers who dared to challenge societal norms and conventions. V. Shantaram's ‘Amritmantha’ (1934) and ‘Jeevan Nataka’ (1942)

delved into themes of excess ritualism and alcoholism, respectively, reflecting the filmmakers' engagement with pressing social issues of the time. Mehboob Khan's ‘Manmohan’ (1936) emerged as a trailblazer, presenting a nuanced portrayal of women's agency and challenging feudal patriarchy.

The 1940s witnessed the consolidation of Indian cinema as both an industry and a mode of entertainment. Despite the prevalence of formulaic elements, visionary directors like V. Shantaram, Raj Kapoor, and Guru Dutt utilized the medium to offer incisive social critiques and introspective narratives. The production of ‘Kisan Kanya’ (1937), India's first indigenously produced colour film, signalled a leap forward in technical innovation and cinematic aesthetics.

The 1950s marked a golden age for Indian cinema, with films like ‘Do Bigha Zameen’ and ‘Pather Panchali’ receiving international acclaim. The establishment of the International Film Festival of India (IFFI) in Bombay in 1952 provided a platform for Indian filmmakers to showcase their talent on the global stage. Satyajit Ray's ‘Pather Panchali’ winning the Cannes award and ‘Mother India’ receiving an Oscar nomination further solidified India's position in the world of cinema. Bimal Roy's ‘Do Bigha Zameen’ (1953) and Satyajit Ray's ‘Pather Panchali’ (1955) captivated audiences worldwide, earning accolades at prestigious film festivals such as Cannes.

The 1960s witnessed the institutionalization of Indian cinema with the establishment of the Film and Television Institute of India in Pune and the inception of the National Film Awards by the Indian government. These developments underscored the growing cultural and artistic significance of Indian cinema as a national heritage.

By the early 1970s, Hindi cinema underwent a paradigm shift, dominated by themes of romance, action, and musical extravagance. The emergence of Amitabh Bachchan as the quintessential 'Angry Young Man' symbolized the changing dynamics of Indian society and cinema. The term 'Bollywood' coined in the 1970s encapsulated the burgeoning influence of Indian cinema on a global scale.

While commercial Hindi cinema flourished in the 1980s with blockbuster hits like Ek Duuje Ke Liye in 1981, Disco Dancer in 1982, Hero in 1983, Naam in 1986, Mr India in 1987, and Tezaab in 1988 etc., the era also witnessed the rise of the parallel cinema movement across different regional spaces. Filmmakers such as Shyam Benegal, Mrinal Sen, Adoor Gopalakrishnan, G. Aravindan, Girish Kasaravalli, Girish Karnad, B. V. Karanth Ketan Mehta, Mani Kaul, Gulzar, Saeed Akhtar Mirza, Basu Chatterjee, Aribam Shyam Sarmah, Jahnu Baruah, Bhabendra Nath Saikia etc. challenged conventional storytelling paradigms, offering thought-provoking narratives rooted in realism and social commentary. The impact of parallel cinema extended beyond Hindi cinema to encompass diverse regional voices and narratives.

The parallel cinema movement of the 1970s and 1980s served as a catalyst for cultural introspection and artistic experimentation. Directors explored themes of identity, social inequality, and political unrest, resonating with audiences both in India and abroad. The rise of the National Film Development Corporation in 1975 and the establishment of institutions like the Film and Television Institute of India underscored the government's commitment to nurturing cinematic talent and promoting cultural diversity.

3.4.3 Globalization and New Horizons

The 1990s marked a significant era in Hindi cinema, characterized by the dominance of the Three Khans - Aamir Khan, Shah Rukh Khan, and Salman Khan. They reigned supreme in mainstream Bollywood, starring in some of the highest-grossing films of the time. This period saw the emergence of a particular brand of commercial cinema, often revolving around romantic-comedies and action-packed narratives.

Parallel cinema, which had gained prominence in previous decades with directors like Satyajit Ray, Shyam Benegal, and others, experienced a decline during the 1990s. The focus shifted towards more commercially viable genres, catering to the mass audience.

The late 1990s witnessed the phenomenon of 'Hum Aapke Hain Koun' which set new benchmarks in terms of box office success and cultural impact. This film epitomized the trend of Bollywood movies veering away from gritty realism towards grandeur, family-centric themes, and larger-than-life storytelling.

However, the landscape of Hindi cinema began to evolve again in the early 2000s. Influenced by globalization and changing audience sensibilities, a resurgence of interest in more nuanced storytelling and diverse narratives could be felt in Hindi as well as in regional mainstream. Films like 'Maqbool', 'Omkara', 'Udaan', 'Vicky Donor', 'Kahaani', 'The Dirty Picture', 'Haider', 'Lunch Box', 'Queen', 'Highway', 'Masaan', 'Pink', 'Piku', 'Bareilly ki Barfi', 'Shubh Mangal Saavdhan', 'Tumbbad' and others emerged as examples of this shift.

These films explored a wide range of themes, delved into the complexities of human relationships, and offered a more realistic portrayal of society. Directors and actors began to experiment with

unconventional narratives and characters, breaking away from the formulaic approach that had dominated mainstream Bollywood for decades.

This period marked a change in Hindi cinema, with filmmakers embracing a more diverse range of stories and audiences welcoming the change. It also highlighted the resilience and adaptability of the Indian film industry in responding to changing times and tastes. Fuelled by globalization, technological advancements, and shifting audience preferences. Filmmakers embraced diverse genres and narrative styles, blurring the lines between art and commerce. The emergence of auteurs like Anurag Kashyap, Vishal Bhardwaj, and Dibakar Banerjee heralded a new era of independent cinema in Hindi Film industry, characterized by bold storytelling and thematic depth.

Check Your Progress

6. Who is credited as the first Indian filmmaker, and what significant contributions did he make to Indian cinema?
7. Describe the characteristics of Indian cinema during the Golden Age, highlighting key filmmakers and their contributions.
8. How did the term "Bollywood" originate, and what does it signify in the context of Indian cinema?
9. What factors contributed to the decline of parallel cinema during the 1990s, and what trends emerged in mainstream Bollywood during this period?
10. How has Indian cinema evolved in response to globalization and changing audience preferences, particularly in the contemporary era? Provide examples of films that reflect this shift.

3.5 Cinema and Society

Cinema, as a medium of storytelling and artistic expression, holds a profound significance in society. From its inception, it has served as

a mirror reflecting the complexities, aspirations, and dynamics of human life. Let us understand cinema and society's relation taking examples from across the globe.

Stop to Consider

Cinema acts as a reflective mirror of society, capturing its realities and aspirations. Cinema celebrates cultural diversity, amplifying voices often unheard, as seen in African and Third Cinema movements. Moreover, documentaries and narrative films inspire dialogue and action, challenging norms and shaping public discourse. Preserving collective memory, cinema endures as a cultural legacy, resonating across generations and reflecting the evolving human experience.

Cinema works as the Mirror of Society: Reflecting the realities and aspirations, cinema works as a Mirror to society. French scholar *Annie Goldmann* in *"Cinema et Societe modern"* (1971) said that films are the link between a certain vision of the world and the characteristics of modern society. At its core, film is a reflection of society, offering insights into the collective consciousness of humanity. Through narrative storytelling, character portrayals, and thematic exploration, filmmakers capture the triumphs, struggles, and complexities of the human experience. Siegfried Kracauer, in his book *Theory of Film, The redemption of physical reality* (1960) argues that films enable the recording and revelation of physical reality. Whether depicting historical events, contemporary dilemmas, or speculative futures, films provide audiences with a window into different worlds, shedding light on societal dynamics, cultural norms, and individual aspirations.

Let us take few examples from the golden age of Hollywood that produced timeless classics such as ‘Casablanca’, ‘Gone with the Wind ’and‘ Citizen Kane etc. These films not only entertained audiences but also reflected the societal anxieties, hopes, and dreams of war time period and the time following. From the disillusionment of post-war America to the aspirations of the American Dream, Hollywood cinema mirrored the evolving landscape of 20th-century society, offering both escapism and introspection.

Similarly, world cinema of that time has served as a mirror for diverse cultures and societies, showcasing unique perspectives, traditions, and struggles. From the Neo-Realism of post-war Italy to the French New Wave of France and beyond, filmmakers have used their craft to confront social injustices, challenge the dictatorial authority, and celebrate the resilience of the human spirit. Through films like ‘Bicycle Thieves’, ‘The 400 Blows’, and ‘Pan's Labyrinth’ etc., directors have tackled issues of poverty, alienation, and political repression, resonating with audiences across borders and generations.

Cultural Representation: Amplifying diverse voices and by celebrating diversity, cinema represents different cultures. In fact, one of the most powerful aspects of cinema is its ability to amplify diverse voices and celebrate cultural heritage. Through storytelling, visual aesthetics, and cinematic language, filmmakers preserve and perpetuate cultural traditions, identities, and narratives. From indigenous storytellers to immigrant filmmakers, cinema serves as a platform for underrepresented communities to share their stories, challenge stereotypes, and assert their presence in the global cultural landscape.

For example, the rise of African cinema in the post-colonial era brought forth a wave of groundbreaking films that challenged Eurocentric narratives and celebrated African identities. Directors like Ousmane Sembène, Djibril Diop Mambéty, and Haile Gerima used their films to explore themes of colonialism, independence, and cultural resurgence, offering nuanced portrayals of African life and challenging Western perceptions of the continent.

Similarly, the emergence of Third Cinema movements in Latin America, Asia, and the Middle East provided a platform for filmmakers to confront social injustices, advocate for political change, and reclaim their cultural sovereignty. Through films like 'The Battle of Algiers', 'City of God' and 'Crouching Tiger, Hidden Dragon', directors challenged dominant narratives, celebrated indigenous cultures, and fostered solidarity among marginalized communities.

Agent of Change: Cinema inspires dialogues and ignites action. Perhaps the most profound impact of cinema lies in its ability to inspire dialogue, provoke reflection, and mobilize collective action. From the earliest days of silent films to the digital age of streaming platforms, filmmakers have used their craft to raise awareness about suppressed social issues, to challenge entrenched prejudices, and advocate for positive change.

Consider the role of documentary filmmaking in exposing social injustices and galvanizing public opinion. Documentaries can be classified into three categories depending on its relation with society: i) Documentaries of Social Representation ii) Documentaries of Social Awareness and iii) Documentaries of Social Protest. From the groundbreaking work of pioneers like Dziga Vertov and Robert Flaherty to contemporary filmmakers like Ava DuVernay and Joshua Oppenheimer, documentarians have shed

light on issues ranging from environmental degradation and human rights abuses to systemic racism and economic inequality. Through films like 'An Inconvenient Truth', '13th', and 'The Act of Killing', directors have sparked global conversations, mobilized grassroots movements, and pressured policymakers to address urgent challenges facing humanity. In India, documentaries like 'When Women Unites', 'Ek Paltun Bheek Nu' and 'Indian Untouched' etc. voiced for issues that usually are not touched upon.

Narrative cinema or Fictions also played a pivotal role in shaping public discourse and challenging prevailing norms. From the pioneering social realism of directors like Ken Loach and Mike Leigh to the provocative storytelling of auteurs like Spike Lee and Kathryn Bigelow, filmmakers have used their art to confront taboo subjects, challenge mainstream narratives, and amplify marginalized voices. Through films like 'Do the Right Thing', 'Zero Dark Thirty' and 'Sorry We Missed You', directors have sparked debates, challenged assumptions, and prompted audiences to re-evaluate their perspectives on issues ranging from race and class to gender and identity.

Cinema as Cultural Legacy: As a repository of collective memory and cultural heritage, cinema preserves and perpetuates the stories, traditions, and legacies of societies past and present. From the silent era to the digital age, films serve as time capsules, capturing the ethos of different eras and generations for posterity.

Consider the preservation efforts of film archives and museums, which safeguard cinematic treasures for future generations. From the archives of the Library of Congress to the collections of the British Film Institute, these institutions ensure that classic films endure as cultural artifacts, inspiring new generations of filmmakers and audiences alike.

Cinema occupies a central role in society, serving as a cultural reflection, catalyst, and legacy. From its origins in the early days of motion pictures to the digital revolution of the present day, cinema has captured the imagination of audiences worldwide, shaping perceptions, challenging norms, and inspiring transformative change. As we continue to navigate the complexities of the 21st century, cinema remains a powerful medium of storytelling and social commentary, reflecting the ever-evolving tapestry of human experience.

Check your Progress

11. How did Hollywood cinema during the 20th century reflect the societal anxieties and dreams of its time, as exemplified by films like 'Casablanca' and 'Gone with the Wind'?
12. Discuss the role of Third Cinema movements in challenging dominant narratives and advocating for political change, drawing examples from regions like Latin America, Asia, and the Middle East.
13. In what ways do documentaries, such as 'An Inconvenient Truth' and 'The Act of Killing', contribute to raising awareness about pressing social issues and mobilizing public opinion?
14. How does cinema serve as a repository of cultural heritage and collective memory, as evidenced by the preservation efforts of film archives and museums worldwide?

3.6 Various Film Schools

In the record of cinematic history, various film schools and movements have emerged, each leaving an indelible mark on the art form and influencing filmmakers across the globe. From the experimental avant-garde of the 1920s to the revolutionary French New Wave of the 1950s, these movements have reshaped storytelling, aesthetics, and the very essence of cinema itself.

Stop to Consider

The early 20th century witnessed groundbreaking movements that reshaped the landscape of cinema. Be it Soviet Montage, Western avant-garde movements like Expressionism and Dadaism or Italian Neo-Realism depicting post-war struggles and the French New Wave prioritizing auteur-driven narratives, these movements continue to inspire filmmakers.

One of the earliest and most influential movements was the **Soviet Montage Experiments** of the 1920s. Led by visionaries like Sergei Eisenstein, Lev Kuleshov, and Dziga Vertov, Soviet filmmakers revolutionized the art of editing, introducing the concept of montage. Rather than merely stringing together shots, montage sought to create meaning through the juxtaposition of images, creating powerful emotional and narrative effects. Eisenstein's landmark film 'Battleship Potemkin' (1925) exemplified this approach, utilizing montage to evoke visceral reactions from audiences and advancing the theory of cinema as a medium of ideological expression.

Simultaneously, in the West, the **Avant-garde movements** challenged traditional modes of filmmaking. Rejecting the narrative conventions of Hollywood, avant-garde filmmakers experimented with form, structure, and content. Films like 'The Cabinet of Dr. Caligari' (1920) and 'Manhattan' (1921) pushed the boundaries of visual storytelling, embracing surrealism, symbolism, and abstraction. These works not only defied cinematic norms but also expanded the possibilities of artistic expression, inspiring generations of filmmakers to explore the medium's untapped potential.

The Expressionist movement, which emerged in Northern Europe in the early 20th century, emphasized subjective experiences and

emotional truths in art and cinema. Artists like Vincent Van Gogh paved the way for a new aesthetic sensibility, one that prioritized inner realities over external appearances. Expressionism encouraged filmmakers to delve into the depths of human consciousness, exploring themes of alienation, despair, and existential angst. This introspective approach to storytelling laid the groundwork for subsequent movements, including the Dadaist movement.

Born out of the chaos of post-World War I Europe, the **Dadaist movement** sought to subvert traditional notions of art and culture. Rejecting rationality and embracing absurdity, Dadaists challenged the very foundations of artistic expression, advocating for radical freedom and spontaneity. Filmmakers like Man Ray embraced these principles, crafting experimental works that defied categorization and blurred the boundaries between reality and illusion. In films like 'Dreams That Money Can Buy', Dadaist filmmakers embraced the irrational and the surreal, inviting audiences to question their assumptions about the nature of reality itself.

The Italian **Neo-Realist movement** of the 1940s emerged as a response to the social and economic upheaval of post-war Italy. Filmmakers like Roberto Rossellini and Vittorio De Sica depicted the struggles of ordinary people against a backdrop of poverty, deprivation, and moral ambiguity. Eschewing traditional studio settings, Neo-Realists embraced real locations, amateur actors, and natural lighting, lending their films a sense of authenticity and immediacy. Through works like 'Bicycle Thieves' (1948), they captured the human condition in all its complexity, inspiring empathy and understanding in audiences worldwide.

In 1950s France, the **French New Wave** revolutionized cinema once again. Led by critics-turned-filmmakers like François Truffaut, Jean-Luc Godard, and Claude Chabrol, the New Wave rejected the

staid conventions of studio filmmaking in favor of a more personal, auteur-driven approach. Drawing inspiration from literature, art, and everyday life, New Wave filmmakers embraced spontaneity, improvisation, and innovation, reshaping the very language of cinema in the process. Through works like 'Breathless' (1960) and 'The 400 Blows' (1959), they challenged audiences to see the world anew, ushering in a new era of cinematic exploration and discovery.

The legacy of these film schools and movements endures to this day, inspiring filmmakers to push the boundaries of creativity and imagination. From the revolutionary experiments of the Soviet Montage Experiments to the introspective meditations of the Expressionist movement, each movement has left an indelible mark on the art of cinema, shaping the way we see the world and ourselves. As we look to the future, it is clear that the spirit of innovation and experimentation that defines these movements will continue to guide and inspire filmmakers for generations to come.

Check your Progress

15. Who were the pioneering figures of the Soviet Montage Experiments?
16. What distinguished avant-garde films from traditional Hollywood cinema?
17. How did the Expressionist movement prioritize artistic expression?
18. Define the Characteristic of Dadaism.
19. What were the central themes explored by Italian Neo-Realist filmmakers?
20. Who were some of the key figures associated with the French New Wave movement?

3.7 Contemporary Trends in Cinema

In the 21st century, Cinema continues to evolve, navigating the complexities of a rapidly changing world. In Indian Cinema, from the realism of 'Lunchbox' (2013) to the whimsy rooted in tradition

of ‘Baahubali’ (2015), RRR (2022), Kantara (2022) and others, Indian filmmakers explore a myriad of themes and genres, pushing the boundaries of storytelling and cinematic imagination. With the advent of streaming platforms and digital distribution channels, cinema has found new avenues for global outreach, reaching audiences far beyond its traditional boundaries. Rise of Female characters and lead in early 21st century cinema is significant. At the same time even the big commercial making and distribution chains also making some space for coloured and Asian characters as saviour leads even within the often criticised race space of Hollywood. Launch of Ms Marvel not only signifies a change in social psyche; but also a change in commercial viability.

Stop to Consider

In the 21st century, cinema serves as a catalyst for change, influencing societal perceptions and challenging stereotypes. Technological advancements, from digital filmmaking to animation, revolutionized storytelling possibilities. Moreover, the shift, from public theaters to private viewing, reshaped the cinematic experience, prompting innovations in both accessibility and vernacular representation.

Let us look at the contemporary trends in Cinema reflecting changes globally.

Change in Social Perceptions: Influencing attitudes and by challenging stereotypes, cinema also shapes people’s perception. In addition to inspiring dialogue and action, cinema also influences societal perceptions and attitudes by shaping stereotypes, challenging prejudices, and promoting empathy. The portrayal of certain groups, identities, and behaviours on screen can have a profound impact on how they are perceived and treated in society. From racial minorities and LGBTQ+ communities to women and people with disabilities, Consider the evolution of LGBTQ+

representation in cinema, from the coded subtexts of classic Hollywood to the emergence of queer cinema in the late 20th century. Directors like Pedro Almodóvar, Gus Van Sant, and Cheryl Dunye used their films to explore LGBTQ+ experiences with sensitivity, humor, and authenticity, challenging heteronormative conventions and advocating for greater visibility and acceptance. Through films like 'All About My Mother', 'My Own Private Idaho', and 'The Watermelon Woman', 'Change in Perception', 'Badhai Do' etc. directors paved the way for a new wave of queer storytelling that celebrated diversity and celebrated queer voices across the globe.

Similarly, the #MeToo movement sparked a reckoning within the film industry, prompting filmmakers to confront issues of sexism, harassment, and gender inequality both on and off screen. From the pioneering work of feminist filmmakers like Jane Campion and Agnès Varda to the trailblazing performances of actors like Frances McDormand and Viola Davis, women in film have challenged the status quo, shattered glass ceilings, and demanded greater representation and agency in the male-dominated industry. Through films like 'The Piano', 'Vagabond' and 'Nomadland' filmmakers have amplified women's voices, championed feminist perspectives, and paved the way for a more inclusive and equitable film culture.

Reflection of Technological Advancements: The evolution of film technology reflects broader technological advancements and innovations in society, shaping the way films are produced, distributed, and consumed. From the invention of motion pictures to the digital revolution of the 21st century, technological breakthroughs have transformed every aspect of the filmmaking process, from cinematography and editing to visual effects and sound design.

Consider the transition from celluloid film to digital cinema, which revolutionized the industry and democratized access to filmmaking tools and platforms. With the advent of digital cameras, non-linear editing software, and online streaming services, filmmakers gained greater creative freedom, flexibility, and accessibility, allowing for a more diverse and inclusive range of voices and stories to reach global audiences. From independent auteurs to grassroots filmmakers, digital technology has empowered creators.

Another technological advancement that has revolutionised 21st Century filmmaking is use of animation and graphics. Although cinema was invented with a animation technique similar to stop motion, yet the 21st century has witnessed animation and graphics emerge as powerful tool offering filmmakers unprecedented opportunities for creativity, visual spectacle, and narrative depth as well as captivating audiences with their unparalleled creativity. With advancements in technology, animation has transcended its traditional boundaries, becoming an integral part of mainstream cinema across genres.

One exemplary film that showcases the transformative power of animation and graphics is ‘Avatar’ (2009), directed by James Cameron. Through groundbreaking visual effects and innovative motion-capture technology, Cameron created the lush and immersive world of Pandora, populated by intricately designed creatures and stunning landscapes. The film's seamless integration of live-action performances with computer-generated imagery (CGI) set a new standard for cinematic realism and spectacle.

Furthermore, animated films like Pixar's ‘Toy Story’ series and Disney's ‘Frozen’ franchise have captivated audiences worldwide with their vibrant characters, engaging narratives, and stunning visual imagery. These films demonstrate the versatility of animation

in conveying complex emotions, exploring themes, and appealing to audiences of all ages.

Moreover, animation and graphics have expanded beyond traditional storytelling formats to include genres like science fiction, fantasy, and superhero films. From the breathtaking visual effects of Marvel's cinematic universe to the imaginative worlds of Studio Ghibli's animated masterpieces, animation continues to push the boundaries of cinematic imagination.

Change in viewing experience: Public viewing to Private spaces

The evolution of Cinema reflects broader societal changes and technological advancements. One significant shift that has occurred is the change in the viewing experience, moving from public viewing to private spaces.

Traditionally, Indian cinema was primarily experienced in public spaces like theaters and cinema halls. Families, friends, and communities would gather to watch films together, creating a shared cultural experience. The atmosphere of a crowded theater, the collective laughter, gasps, and applause all added to the immersive nature of watching a film on the big screen.

However, with the advent of technology, particularly the rise of home entertainment systems and digital streaming platforms, the viewing experience has become more privatized. People now have the option to watch films in the comfort of their homes, on their personal devices, and at their convenience.

While the shift towards private viewing offers many benefits, it also poses challenges to the traditional theater-going experience. Cinemas must adapt and innovate to remain relevant in an increasingly digital landscape. Many theaters have embraced technological advancements by offering premium amenities,

immersive formats like IMAX and 3D, and exclusive content to enhance the overall movie-going experience.

Besides although Digital technology has revolutionized the industry, by challenging traditional modes of production and distribution, yet within the digital realm with big players like Netflix, Amazon Prime, Hotstar and others, there are instances of marginalization based on factors like language, finance, and visibility. This has led to the emergence of vernacular viewing spaces such as Hoichoi, Reel Drama, Neer TV, and others. Mainstream digital platforms focused on content in dominant languages like English, making it challenging for filmmakers working in vernacular languages to gain recognition. Also, the high media selling cost of the big players makes it almost impossible for independent filmmakers working in vernacular languages to compete with big-budget productions and showcase their works. Vernacular viewing spaces provide a more cost-effective alternative, allowing filmmakers to reach niche audiences without the burden of excessive production or marketing costs.

In the dynamic realm of 21st-century cinema, continues to mirror and shape societal perception with its diverse narratives and technological innovation. From streaming platforms to diverse representation, cinema evolves alongside society. Cinema continues to reflect evolving narratives, technological advancements, and societal shifts, embracing diversity and innovation amidst global changes.

Check Your Progress

21. How has the #MeToo movement influenced the portrayal of women in contemporary cinema?

22. In what ways has the transition from celluloid film to digital cinema democratized filmmaking and empowered creators, according to the text?

23. What challenges do filmmakers working in vernacular languages face in the era of dominant digital platforms like Netflix and Amazon Prime, and how are vernacular viewing spaces addressing these challenges?

3.8 Summing Up

Cinema's two-century journey began with the concept of persistence of vision, leading to landmark inventions by pioneers like the Lumière Brothers and Thomas Edison. Throughout the 20th century, cinema flourished with movements such as Soviet Montage and the French New Wave, reshaping storytelling and reflecting societal changes. Indian cinema, starting with the Lumière Brothers' arrival, evolved into a vibrant expression of cultural identity. In the 21st century, technological advancements like digital filmmaking transformed the cinematic landscape, while streaming platforms democratized access. Cinema remains a mirror of society, inspiring dialogue, challenging norms, and preserving collective memory across generations.

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3.9 Model Questions

Short Answer Questions:

1. Who are credited as the pioneers of cinema according to the text?
2. What were some of the early cinematic devices that utilized the concept of persistence of vision?
3. Who is considered the first Indian filmmaker, and what significant contributions did they make to Indian cinema?
4. How does cinema serve as a mirror to society, according to Annie Goldmann and Siegfried Kracauer?
5. What are some examples of Hollywood classics that reflect societal anxieties and aspirations, as mentioned in the text?

6.How does cinema represent cultural diversity and heritage, according to the text?

Long Answer Questions:

1. Discuss the evolution of Indian cinema from its early origins to the present day, highlighting key milestones, technological advancements, and the socio-cultural impact.
2. Discuss the multifaceted role of cinema in contemporary society, examining its influence on social perceptions, technological advancements, and viewing experiences.

3.11 Answers to Check your Progress

Answer to Question No. 1 The inventors of cinema are Auguste and Louis Lumière, who developed the groundbreaking device known as the Cinematographe.

Answer to Question No.2 The concept of persistence of vision allowed early inventors to create illusions of motion through devices like the Zoetrope and later in animation techniques.

Answer to Question No. 3 Precursors to film include experiments in photography by Joseph Nicephore Niepce, William Henry Fox Talbot, and Eadweard Muybridge, which laid the foundation for techniques like stop-motion animation and the study of motion through sequential photography.

Answer to Question No. 4 Legal battles over patents occurred between inventors like Thomas Edison and Thomas Armat, particularly concerning motion picture projectors. Edison claimed that Armat's invention infringed upon his patents, leading to disputes over rights.

Answer to Question No. 5 The Lumière brothers' contributions extended beyond their initial inventions through their travels and successful film projections, which helped popularize cinema

globally. They laid the groundwork for future filmmakers and shaped the art and entertainment industry significantly.

Answer to Question No. 6 The first Indian filmmaker credited in the narrative is Harishchandra Bhatvadekar, also known as Save Dada. He made significant contributions by crafting two short films in 1899 using Edison's Projecting Kinetoscope, which offered a glimpse into India's cinematic potential and paved the way for other filmmakers to follow suit.

Answer to Question No. 7 Indian cinema during the Golden Age was characterized by visionary filmmakers such as V. Shantaram, Raj Kapoor, and Guru Dutt. They challenged societal norms and introduced themes of social realism and introspection. Films like 'Do Bigha Zameen' and 'Pather Panchali' received international acclaim during this period.

Answer to Question No. 8 The term 'Bollywood' originated in the 1970s and encapsulated the burgeoning influence of Indian cinema on a global scale. It signifies the Hindi film industry based in Mumbai, which produces mainstream commercial films known for their lavish production values, song-and-dance sequences, and melodramatic storytelling.

Answer to Question No. 9 The decline of parallel cinema during the 1990s can be attributed to a shift towards more commercially viable genres in mainstream Bollywood. The focus shifted away from thought-provoking narratives towards grandeur, family-centric themes, and larger-than-life storytelling.

Answer to Question No. 10 Indian cinema has evolved in response to globalization and changing audience preferences by embracing diverse genres and narrative styles. In the contemporary era, filmmakers have explored nuanced storytelling in films like 'Maqbool', 'Omkara', 'Vicky Donor', 'Kahaani', and 'Queen', which delve into a wide range of themes and offer a more realistic portrayal of society. Additionally, the emergence of auteurs like

Anurag Kashyap and Vishal Bhardwaj has heralded a new era of independent cinema characterized by bold storytelling and thematic depth.

Answer to Question No. 11 Hollywood cinema during the 20th century served as a reflection of societal anxieties and dreams through films like 'Casablanca' and 'Gone with the Wind' by portraying themes relevant to the era. 'Casablanca', for instance, depicted themes of sacrifice and resistance during World War II, resonating with audiences experiencing the turmoil of the time. Similarly, 'Gone with the Wind' reflected the aspirations and struggles of the American South, capturing the complexities of societal change and individual resilience in the face of adversity.

Answer to Question No. 12 Third Cinema movements emerged across regions like Latin America, Asia, and the Middle East as platforms for filmmakers to challenge dominant narratives and advocate for political change. For instance, films like 'The Battle of Algiers' from Algeria and 'City of God' from Brazil confronts social injustices and celebrate indigenous cultures, fostering solidarity among marginalized communities and challenging Western perceptions. These movements provided a voice for underrepresented groups and reshaped the cinematic landscape by highlighting diverse perspectives and struggles.

Answer to Question No. 13 Documentaries play a crucial role in raising awareness about pressing social issues and mobilizing public opinion through powerful storytelling and investigative journalism. 'An Inconvenient Truth', for example, shed light on the urgency of climate change, sparking global conversations and prompting environmental activism. Similarly, 'The Act of Killing' confronted the legacy of political violence in Indonesia, prompting reflection and calls for justice. Through their compelling narratives and factual

evidence, documentaries engage audiences and catalyze meaningful action on critical issues facing humanity.

Answer to Question No. 14 Cinema serves as a repository of cultural heritage and collective memory through preservation efforts by film archives and museums worldwide. Institutions like the Library of Congress and the British Film Institute safeguard classic films, ensuring that they endure as cultural artefacts for future generations. These archives preserve the ethos of different eras and generations, allowing audiences to connect with the rich tapestry of human experience captured on film. Through preservation and curation, cinema continues to inspire and educate audiences, shaping our understanding of history and culture.

Answer to Question No. 15 The pioneering figures of the Soviet Montage Experiments include Sergei Eisenstein, Lev Kuleshov, and Dziga Vertov.

Answer to Question No. 16 Avant-garde films challenged traditional Hollywood cinema by experimenting with form, structure, and content, embracing surrealism, symbolism, and abstraction.

Answer to Question No. 17 The Expressionist movement prioritized subjective experiences and emotional truths in art and cinema, delving into themes of alienation, despair, and existential angst.

Answer to Question No. 18 The **Dadaist movement** sought to subvert traditional notions of art and culture. Rejecting rationality and embracing absurdity, Dadaists challenged the very foundations of artistic expression, advocating for radical freedom and spontaneity.

Answer to Question No. 19 Italian Neo-Realist filmmakers explored themes such as poverty, deprivation, moral ambiguity, and the struggles of ordinary people against a backdrop of post-war Italy.

Answer to Question No.20 Key figures associated with the French New Wave movement include François Truffaut, Jean-Luc Godard, Claude Chabrol, and Jacques Rivette, who rejected traditional studio filmmaking in favor of a more personal, auteur-driven approach.

Answer to Question No.21 The #MeToo movement has prompted a significant shift in the portrayal of women in contemporary cinema by raising awareness of sexism, harassment, and gender inequality within the film industry.

Answer to Question No.22 The transition from celluloid film to digital cinema has democratized filmmaking by making it more accessible and inclusive. With the advent of digital technology, filmmakers now have greater flexibility and accessibility in terms of production tools and platforms. This transition has empowered creators from diverse backgrounds to tell their stories and reach global audiences without the constraints of traditional filmmaking processes.

Answer to Question No.23 Filmmakers working in vernacular languages face challenges in gaining recognition and visibility within the dominant digital platforms like Netflix and Amazon Prime. These platforms often prioritize content in dominant languages like English, making it difficult for vernacular language films to compete. Vernacular viewing spaces, such as Hoichoi and Reel Drama, provide a more cost-effective alternative for filmmakers to showcase their works and reach niche audiences without the burden of excessive production or marketing costs.

UNIT:1

Phases of Production: Pre-Production, Production and Post-Production

Unit Structure:

1.1 Introduction

Programme production in electronic media is a multifaceted process that involves numerous stages, equipment, and professionals working together to create engaging content for audiences. It involves numerous professionals playing key roles in different stages and areas of production. Television production involves writers writing stories and scripts or screenplays; directors or creative producers guiding actors and crew members during filming; cinematographers or Directors of Photography handling camera operation and lighting setup; editors transforming raw footage into a cohesive narrative through meticulous editing and post-production

work; production designers or art directors arranging sets, costumes, and props; sound designers capturing, editing and mixing of audio elements; production assistants providing vital support throughout the production process; as well as producers supervising the entire production process, managing budgets, hiring personnel, and ensuring the project's timely completion. In Radio production, apart from the cinematographer, other media professionals perform more or less similar role focusing an outcome in audio format. Television Anchors and Radio Jockeys maintain a connection with the audience by delivering the content during a production.

All these professionals perform their task in different stages of a visual production process. Any kind of electronic media production, visual and audio, involves three basic stages: Pre Production, Production and Post Production. Going through these stages, professional television productions reach out to a large audience. In this unit, we will discuss about the different stages of an electronic media programme production along with the work profiles of key professionals involved in the production process.

1.2 Objectives

This unit is an attempt to give a brief overview of the phases of an electronic media programme production. After going through this unit you will be able to,

- explain the production process of an electronic media programme;
- recognise the three stages of an electronic media programme production;
- describe the work profile of key professionals involved in programme production.

1.3 Phases of Production

While hosting a buffet, meticulous planning is essential to ensure a delightful experience for guests. The initial step entails deciding the venue and crafting a menu that balances flavours and caters to dietary preferences. Again, the event for buffet should also be taken care of while preparing the menu. The menu, you decide for a kid's birthday lunch cannot be same with an anniversary dinner. With the menu in mind, procuring fresh ingredients becomes imperative, often involving a trip to the market to gather all necessary components. Once the pantry is stocked, the culinary journey commences, meticulously blending ingredients at precise moments and quantities to achieve culinary perfection. Finally, attention shifts to presentation, where each dish is carefully arranged in decorative vessels and garnished to elevate both visual appeal and taste, culminating in a harmonious dining tableau.

Similarly, the production of a television, radio programme or a film unfolds in a three-stage process mirroring the culinary endeavour. Firstly, meticulous preparation is paramount, encompassing everything from conceptualizing content to assembling resources required for filming. Subsequently, the production phase unfolds, where scripts are brought to life through meticulous direction, acting, and technical execution. Finally, akin to garnishing a dish, the product undergoes refinement and polishing, ensuring seamless editing, sound design, and visual enhancement to captivate audiences upon its broadcast debut. Just as a well-crafted meal delights the senses, a finely produced programme engages viewers or audience, delivering entertainment balancing with other purposes or use of media that leaves a lasting impression.

The process of creating any electronic media programme, audio or audio-visual, consists of three phases or stages from ideation to

completion of task. Phase one is known as Pre-production where planning and coordination of resources get initiated. This is the phase of conceptualization, scripting and preparation of blueprint. Phase two consists of actual capturing of content. This is known as Production. Phase three is known as Post-production. At this stage, all the elements get edited together and enhanced to create the final programme.

Phases of Production are universal for every electronic media programme. In case of Film making process, many books and other form of resources classify distribution as a separate stage or phase of production. However, as per the classical definition, distribution is also Post-production process.

1.3.1 Pre Production

Stop to Consider

Pre Production is preparing the Blue Print for the whole production process. It's vital for the production process as it helps in cost cutting and smooth functioning of the other phases.

Pre-production for electronic media programs encompasses a comprehensive array of tasks and considerations, all crucial for laying the groundwork of a successful production. Before stepping foot into the studio or embarking on location shoots, extensive planning and preparation are paramount. This preparatory phase entail a myriad of activities, including idea generation, diligent research, recce or the preliminary visit to location, meticulous scripting, and exhaustive discussions with the entire crew, including talents such as actors. The preparatory stage also involves the logistical aspects of arranging equipment, securing video and audio

tapes, procuring necessary properties and costumes, and designing sets or scouting locations. Each element must be carefully orchestrated to ensure a seamless transition into the production phase.

At the heart of pre-production lies the clarity of vision. Just as a chef needs a clear idea of the dish they aim to create before stepping into the kitchen, a television producer must have a precise understanding of what they want the program to look and feel like. This clarity serves as the guiding beacon, illuminating the path from concept to television image or radio programme. However, a clear vision alone is insufficient; it must be translated effectively onto the screen or to a radio programme, through a meticulously crafted script. The script serves as the blueprint, outlining every visual and auditory element essential for bringing the program to life. In scripting, two primary formats prevail: the single-column script and the double-column script. The single-column script primarily focuses on dialogue and visual narration, with minimal reference to audio elements such as background score or sound effects. Conversely, the double-column script meticulously delineates both audio and visual elements, providing a comprehensive roadmap for the production team, especially the cinematographer and editor.

The significance of pre-production planning cannot be overstated. It is the foundation upon which the entire production process rests, akin to having all the raw ingredients meticulously prepared before embarking on a culinary endeavour. With thorough planning, the subsequent stages of production become not only manageable but also conducive to creativity and innovation. Furthermore, in today's digital age, scripting has evolved with the advent of specialized software designed to streamline the writing process. Tools such as Final Draft, Arc Studio, and Celtx empower writers to craft intricate scripts with ease, facilitating collaboration and enhancing efficiency.

In addition to scripting, another invaluable tool in pre-production is storyboarding. While primarily associated with film production, storyboarding also finds relevance in electronic media programs, particularly in instances where visual story telling is paramount. A storyboard serves as a visual roadmap, comprising a sequence of illustrations or images that pre-visualize key scenes and transitions within the program. Although time constraints may limit the feasibility of storyboarding in some television productions, its utility in facilitating communication and visualization cannot be overlooked. For cinematographers and directors, storyboarding offers a tangible blueprint, providing clarity on shot composition, framing, and sequence of events.

Recce is a significant pre-production process, especially when it involves outdoor shooting. It is a crucial pre-filming procedure, involves a comprehensive assessment of a location's suitability for shooting. Typically conducted by the Director of Photography, it encompasses access evaluation to essential facilities and meticulous scrutiny of potential lighting and sound concerns. This process is intricately linked with location scouting, serving as a preliminary step to ensure optimal conditions for filming. With an emphasis on thorough examination and attention to detail, recce plays a pivotal role in facilitating a smooth and successful production by prior addressing of any logistical or technical challenges that may arise on set.

In case of news broadcasts and other live broadcasts, making of signature tunes, creating of programme montage and graphics as well as backdrops etc. are also done in pre-production stage.

In essence, pre-production sets the stage for success in electronic media program production. It is the phase where ideas are refined, scripts are meticulously crafted, and logistical arrangements are

made to ensure a seamless transition into the production phase. With careful planning and attention to detail, pre-production lays the groundwork for a compelling and captivating program that resonates with audiences. From the inception of an idea to the visualization of scenes through storyboarding, every aspect of pre-production is geared towards realizing the creative vision and bringing it to life on screen.

1.3.2 Production

Stop to Consider
Production involves capturing or recording of events or script. Production has its challenges and involves efficient managements of resources.

The production phase of an electronic media program is the culmination of meticulous planning and preparation, much like the intricate process of cooking in a kitchen. Whether on the studio floor or at a location, this stage is where the vision comes to life, with every detail meticulously managed to ensure a seamless and captivating end result.

Central to the production phase is the efficient management of resources and personnel. Just as the team of chefs orchestrates the flow of ingredients and utensils in the kitchen, the production team must oversee all facilities, handle talents and crew members, and ensure smooth operations on set. From camera operators to sound technicians, each member plays a vital role in bringing the ideas to a programme.

In a television production, shooting without hindrances is essential for capturing authentic performances and compelling visuals.

Shooting without hurdles allows for the organic unfolding of scenes and interactions. However, challenges inevitably arise, and problem-solving on the spot is a hallmark of effective production management. Whether it's adjusting lighting conditions, addressing technical glitches, or resolving conflicts among cast and crew, quick thinking and adaptability are essential skills in navigating the complexities of on-set dynamics.

Crowd control is crucial aspect of the production phase, particularly in larger productions where the presence of spectators or extras can impact filming. Much like managing a bustling kitchen during peak hours in a restaurant, maintaining order and focus amidst the hustle and bustle of a production ensures that the creative vision remains intact.

Furthermore, the production phase requires a diverse array of equipment and skilled personnel to execute a specific program type. The expertise of the production team ensures that every aspect of the program, from audio quality to visual composition, is meticulously managed to deliver a high-quality end product.

In radio, the recording stage assumes paramount importance. Production phase in a radio programme production primarily consists of recording. Whether in a professional studio, on location, or remotely using digital technologies, capturing audio content requires careful attention to detail. Performers, hosts, or interviewees deliver their lines or contributions, while the production team ensures that audio quality, levels, and technical aspects are properly managed to create a compelling auditory experience for listeners.

In essence, the production phase of an electronic media program is a dynamic and collaborative process, where creativity intersects with logistical precision to bring stories to life on screen or through the

airwaves. Through effective management, problem-solving, and teamwork, the production team transforms the blueprint of pre-production into a vibrant and engaging final product that resonates with audiences.

Self Assessment Question

1. Discuss briefly about the challenges commonly encountered during the Production phase, and how are they addressed?

1.3.3 Post Production

Stop to Consider

Post-production involves everything from editing of the recorded content to broadcast of the programme over radio or television.

The post-production phase of program production is akin to the final touches applied to a dish before it's presented on the dining table. Here, all recorded visuals are meticulously crafted into the desired shape and get broadcasted. This stage encompasses several crucial tasks, including cutting recorded visuals to appropriate lengths, arranging them in a cohesive sequence, and adding desired effects or text/captions to enhance the viewer's experience. Additionally, commentary and music/song recordings are integrated into the program, adding depth and emotion to the final product. Ultimately, post-production culminates in the assembly of the entire program, where every element comes together to create a seamless and engaging viewing experience.

In a radio production also, post-production assumes a similar role, albeit with a focus on audio elements. Here, all components of the show are meticulously edited together, ensuring a polished and cohesive final product. Unwanted segments are removed, and the

show is structured in a manner that captivates the audience's attention. Overall, post-production is the phase where editing takes centre stage, shaping the program into its final form.

It's worth noting that in live broadcasts, production and post-production often occur simultaneously, both in radio and television. However, for pre-recorded shows, post-production offers an opportunity to refine and perfect the content before it's presented to the audience. Whether it's adding finishing touches to a television program or fine-tuning the audio for a radio show, post-production is where the magic happens, transforming raw footage into a polished, captivating final product and getting it broadcasted over designated mediums.

Check Your Progress

1. What are the two formats of script writing?
2. What is storyboarding?
3. Fill in the blanks with appropriate words:

a) Crowd control is ..... aspect of the production phase, particularly in larger productions where the presence of .....or extras can impact filming.

b) In radio, the recording stage assumes ..... importance.

c) It's worth noting that in live broadcasts, production and post-production often occur ....., both in radio and television.

1.4 Equipments for Production

The production process in electronic media, whether for television or radio programs, relies heavily on a range of essential equipment. Just as a painter needs brushes, colors, and a palette to create art on a canvas, producers require cameras, lights, microphones, sound recorders, and other tools to craft compelling visual and auditory experiences for their audiences. Let's delve deeper into few of these key equipments:

1. **Camera:** The camera is the cornerstone of any production, serving as the primary tool for capturing visual content. Much like the human eye, a camera lens selects a portion of the visible environment and produces an optical image. However, the camera's principal function is to convert this optical image into an electrical signal, commonly known as the video signal. This signal forms the basis for the visual content that viewers ultimately see on their screens.
2. **Lights:** Lighting plays a crucial role in television production, serving multiple purposes beyond simply illuminating the scene. Firstly, adequate lighting ensures that the television camera receives sufficient illumination to capture technically acceptable pictures. Secondly, it allows viewers to perceive objects accurately, providing essential context and detail. Finally, lighting helps establish the overall mood of the program, influencing the viewer's emotional response to the content.
3. **Microphone:** The microphone is instrumental in capturing sound waves and converting them into electrical energy or audio signals. Just as the camera records visual content, the microphone records audio content, including dialogue, ambient noise, and background music. Different types of microphones are available to suit various purposes, from capturing a news anchor's voice to recording the sounds of a live event or concert.
4. **Sound Recorder**: In television production, sound recording is essential for conveying realism and enhancing the viewer's immersive experience. The sound recorder captures the audio picked up by the microphone, allowing producers to control volume, quality, and mixing. By selecting specific microphones or audio inputs, amplifying weak signals, and mixing multiple sound sources, producers can create dynamic and engaging audio content to complement the visual elements of the program.

5. **Videotape Recorder:** For television programs, both audio and visual components need to be recorded for subsequent editing and broadcasting. While sound is recorded using dedicated sound recorders, visuals are typically recorded on videotape or computer disk using a videotape recorder. Most television programs are pre-recorded before being telecast, allowing producers to edit and refine the content to meet quality standards and audience expectations.
6. **Video recorder:** Video recorders offer the capability to directly capture video signals onto SD cards or SSD hard disks, enabling seamless integration with production studios for editing purposes or straightforward playback of pre-recorded signals. High-quality broadcast deck recorders provide an added advantage by facilitating the synchronization of multiple units, enhancing efficiency and flexibility in video production workflows.
7. **Teleprompter:** Studio prompters, also known as Teleprompters, play a pivotal role in news, sports, and weather programs by enabling hosts or journalists to effortlessly read prompts while maintaining eye contact with the camera. These prompters are operated using computer software and, in professional iterations, have the capability to accommodate cameras of all sizes.

Moving on to radio program production, the equipment requirements are tailored to the medium's unique audio-centric nature. Here, we will discuss few of the equipments essential for the production of a radio broadcast or programme.

1. **Microphone:** Microphones are fundamental tools in audio production, serving as the primary devices for capturing sound and converting it into electrical signals. From recording studios to live performances, microphones play a pivotal role in capturing the nuances of sound with precision

and clarity. Microphones play a crucial role in live sound reinforcement, recording studios, broadcast facilities, and film production. In live settings, microphones amplify and transmit sound to audiences, ensuring clear and intelligible communication. In recording studios, microphones capture performances with studio-quality precision, allowing artists to express themselves authentically. In broadcast and film production, microphones capture dialogue, ambient sounds, and musical performances, enhancing the immersive quality of audiovisual content. Microphones are indispensable tools in audio production, enabling engineers, musicians, broadcasters, and content creators to capture, amplify, and reproduce sound with precision and fidelity.

Microphones come in various types and designs, each suited to different applications and environments. There are dynamic microphones, condenser microphones, ribbon microphones, and more, each offering unique characteristics and performance capabilities. This versatility allows audio engineers to choose the most suitable microphone for specific recording scenarios, whether it's capturing vocals, instruments, or ambient sounds.

2. **Microphone Processor:** In radio broadcasting, maintaining consistent audio levels is crucial for ensuring a seamless listening experience. A microphone processor helps stabilize the speaker's voice at a constant level by compressing or amplifying the audio signal as needed. This ensures that the broadcasted audio remains clear and intelligible, regardless of fluctuations in volume or background noise.
3. **Mic Arm:** Studio microphones are often mounted on specialized arms that allow for easy adjustment and positioning. These mic arms enable broadcasters to move the

microphone around and adjust it to their liking, ensuring optimal sound capture without impeding other equipment or workspaces.

4. **Headphones:** Headphones are indispensable tools for radio broadcasters, allowing them to monitor the audio they broadcast in real time. By connecting headphones to the same audio channel that feeds the speakers, broadcasters can listen carefully to the broadcasted audio and make necessary adjustments on the fly. This ensures that the audio remains balanced, clear, and free from distortion or technical issues.
5. **Mixer Console:** At the heart of any radio studio is the mixer console, which serves as the central interface for controlling audio inputs and outputs. Each channel on the mixer represents an input source, such as microphones, audio players, or phone lines. The console's faders and knobs allow broadcasters to adjust the volume, dynamics, and balance of each audio source, ensuring a smooth and cohesive broadcast.
6. **Telephone Hybrid Interface:** For radio programs that incorporate live phone calls, a telephone hybrid interface is essential for connecting phone lines to the mixer console. This interface allows broadcasters to seamlessly integrate caller audio into the broadcast, facilitating interactive discussions, interviews, or call-in segments. Additionally, many hybrids feature echo cancellation and automatic equalization to enhance audio quality and clarity.

Thus, the production process in electronic media relies on a diverse array of equipment, each serving a specific function in capturing, recording, and broadcasting visual and auditory content. From cameras and lights to microphones, sound recorders, and mixer consoles, these tools form the backbone of

television and radio program production, enabling producers to create engaging and immersive experiences for their audiences.

Check Your Progress

1. What is a Videotape recorder?
2. Why and when do you need a Telephone Hybrid Interface in a radio production?
3. Write briefly about the significance of a Teleprompter.

1.5 Post-production Equipments

Post-production editing systems are indispensable tools in the world of television and radio production, serving as the final step in refining and perfecting content before it is presented to audiences. Post-production editing machines enable producers to fine-tune recorded material, select relevant visuals or audio segments, and arrange them in a cohesive manner for broadcast.

In television post-production, systems with **editing softwares** like Final Cut Pro, Adobe Premier Pro etc play a crucial role in assembling recorded visuals into a compelling narrative. Producers meticulously select the most relevant footage from recorded material and arrange it in a specific order to create a coherent storyline. Whether it's adding transitions, effects, or captions, editing set ups provide the tools necessary to enhance the visual appeal of the program and engage viewers. While there are various editing systems available, ranging from basic software to advanced suites, the creative decisions ultimately rest with the editor, who must have a clear vision of the desired outcome.

In live broadcasts, **Video transmitters** serve the purpose of transmitting video and audio signals from one location to another. Typically, they are comprised of two components: a transmitter

often referred to as the ‘sender’, which is linked to an input signal source such as a CCTV camera or television set, and a receiver, responsible for capturing the transmitted signal and delivering it to a display screen. A quality video transmitter is capable of sustaining wireless video transmission with minimal latency, supporting connections to multiple receivers, and enabling monitoring from multiple mobile devices simultaneously. These transmitters are commonly utilized in live broadcast scenarios, facilitating seamless transmission of video content across various locations.

A video mixer is very crucial equipment here. It stands as the central component within a television studio, serving as the hub for broadcasting operations. It enables users to seamlessly switch between desired sources using both simple and intricate transitions, while also facilitating the creation and management of virtual sets. Additionally, the video mixer empowers operators to overlay graphics or text onto the broadcasted content, enhancing the visual presentation of the program.

Similarly, in radio post-production, editing systems serve as the final step in refining audio content before it is transmitted to listeners. Having the right software, such as Adobe Audition or Pro Tools, can streamline the editing process and enhance efficiency.

The **Audio Processor** is a critical piece of equipment that improves and optimizes sound quality, giving radio programs a unique character and appeal. By adjusting parameters such as compression, equalization, and effects, producers can create a signature sound that sets their station apart from others. **Studio monitor speakers** are also essential tools, providing accurate feedback on audio quality and helping detect any abnormal sounds or inconsistencies. Additionally, the **On-Air light** serves as a visual indicator to show when a microphone is live, preventing interruptions and ensuring a

smooth broadcasting experience. Apart from these, few of the production equipments like Audio console, Headphones, Telephone Hybrid etc. also work as post-production equipments.

In both television and radio production, the effectiveness of post-production editing systems depends on the quality of the recorded material and the clarity of the producer's vision. The better the pre-production and production stages of the program are, the easier the post-production stage becomes.

Check Your Progress

1. Name a few softwares for audio and audio-visual editing.
2. What is a video mixer?
3. Write the significance of an Audio Processor.

1.6 Production Professionals

Television production is a collaborative effort that requires a diverse team of professionals working together to bring a program to life. Each member of the team plays a crucial role in ensuring the success of the production, from the creative talent to the support staff. Let's discuss the key roles that these team members play in the production process:

1. **Producer:** The producer is the head of the production and oversees the entire process. They manage the budget, coordinate with advertising agencies, actors, and writers, and are responsible for ensuring that all elements of the production come together smoothly. The producer plays a pivotal role in coordinating both technical and non-technical aspects of the production.
2. **Director:** In television production, the director is responsible for guiding the actors and overseeing the technical operations. They

translate the script into effective audio and video messages, determining camera placement, shot composition, and actor positioning. The director plays a crucial role in bringing the vision of the script to life on screen.

3. **Production Assistant:** The production assistant supports the producer and director in various tasks to ensure the smooth execution of the production. They may assist with administrative duties, coordinate logistics, and provide support during filming. The production assistant plays a vital role in facilitating communication and coordination within the production team.
4. **Script Writer:** The script writer is responsible for crafting the script for the program. They create dialogue, outline scenes, and provide details on actors, costumes, and locations. The script writer plays a fundamental role in shaping the narrative and tone of the program, working closely with the director to bring the script to fruition.
5. **Actors:** In fictional or semi-fictional contents like television-series, drama, docu drama etc, actors bring the script to life through their performances, portraying different characters as required by the script. They deliver dialogue, convey emotion, and engage with other characters to tell the story effectively. Actors play a central role in captivating the audience and conveying the intended message of the program.
6. **Anchor:** An anchor is a presenter who formally introduces and hosts a program on television. They may host news programs, reality shows or other types of broadcasts, guiding viewers through the content and providing context and commentary as needed. Anchors play a crucial role in engaging the audience and delivering information in a clear and engaging manner.
7. **Cameraperson/Director of Photography:** Camerapersons operate the cameras during filming, capturing footage according to the director's instructions. They are responsible for framing

shots, adjusting camera settings, and ensuring smooth camera movement to capture the action effectively. Camerapersons play a vital role in translating the director's vision into visual storytelling.

8. **Sound Recordist:** The sound recordist is responsible for capturing high-quality audio for the program. They record dialogue, sound effects, and background music, ensuring that the audio elements enhance the overall production. Sound recordists play a critical role in creating a immersive auditory experience for the audience.
9. **Art Director:** The art director oversees the creative design aspects of the production, including set design, location scouting, and graphics. They work closely with the director, to create visually compelling environments that enhance the storytelling. The art director's creative vision adds depth and authenticity to the program.
10. **Property Manager:** The property manager is responsible for maintaining and managing the use of various set pieces and props. They ensure that props are available as needed during filming and oversee their storage and maintenance. Property managers play a crucial role in creating a realistic and immersive setting for the production.
11. **Floor Manager:** The floor manager is responsible for coordinating activities on the studio floor during filming. They convey the director's instructions to the cast and crew, supervise floor personnel, and ensure that filming proceeds smoothly. Floor managers play a key role in maintaining order and efficiency on set.
12. **Costume Designer:** The costume designer creates and designs costumes for the characters in the program. They collaborate with the director and actors to develop costumes that enhance the visual aesthetic and convey character traits effectively.

Costume designers play an important role in bringing the characters to life and creating a cohesive visual style for the production.

13. **Makeup Artists:** Makeup artists in television production play a crucial role in enhancing the appearance of on-screen talent. They create desired looks, ensuring that actor and anchor's makeup complements their characters and suits the requirements of the production. Makeup artists contribute to the overall visual quality of television programs.

The production team for electronic media programs consists of a diverse group of professionals, each bringing their unique skills and expertise to the table. From producers and directors to actors and designers, every member of the production team plays a vital role in bringing the creative vision to life on screen. Collaboration and teamwork are essential for ensuring a successful production that resonates with audiences.

Check Your Progress

1. What role does the producer play in television production?
2. What is the responsibility of makeup artists in television production?

1.7 Summing Up

The production of electronic media programs involves several phases, each essential for creating compelling content. Pre-production lays the groundwork for success, involving tasks such as idea generation, research, scripting, and logistical planning. Clear vision and meticulous planning are crucial during this phase to ensure a seamless transition into production.

Production is where the vision comes to life, with the entire team working together to capture footage, record audio, and bring the

script to fruition. Efficient management of resources and personnel is key to navigating the complexities of on-set dynamics and ensuring smooth operations.

Post-production is the final stage, where recorded material is meticulously edited to create the desired outcome. This involves cutting visuals, adding effects, integrating audio elements, and assembling the final program. Whether it's for television or radio, post-production is where the magic happens, transforming raw footage into a polished and captivating final product.

Overall, the production of electronic media programs is a collaborative effort that requires careful planning, creative execution, and attention to detail at every stage of the process. From pre-production planning to post-production editing, each phase plays a crucial role in delivering high-quality content that resonates with audiences.

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1.9 Model Questions

Short Answer Questions:

1. What are the key tasks involved in the pre-production phase of electronic media program production?

2. What is Recce? How that's significant for an electronic media production?

3. Write briefly about the different types of microphones.

4. What are the different types of equipments used in television production?

Long Answer Questions:

1. How does post-production differ between television and radio programs, and what are the key tasks involved in each?

2. How does the clarity of vision contribute to the success of a television or radio program during pre-production?

3. Post-Production editing softwares are vital for electronic media broadcasts. Do you agree? Give your arguments.

1.10 Answers to Check Your Progress/ Possible Answer to SAQ

Answer to Question No. 1: In scripting, two primary formats prevail: the single-column script and the double-column script. The single-column script primarily focuses on dialogue and visual narration, with minimal reference to audio elements such as background score or sound effects. Conversely, the double-column script meticulously delineates both audio and visual elements, providing a comprehensive roadmap for the production team, especially the cinematographer and editor

Answer to Question No. 2: Primarily associated with film production, storyboarding also finds relevance in electronic media programs, particularly in instances where visual story telling is paramount. A storyboard serves as a visual roadmap, comprising a sequence of illustrations or images that pre-visualize key scenes and transitions within the program.

Answer to Question No. 3: a) crucial, spectators b) paramount c) simultaneously

Answer to Question No. 4: For television programs, both audio and visual components need to be recorded for subsequent editing and broadcasting. While sound is recorded using dedicated sound recorders, visuals are typically recorded on videotape or computer disk using a videotape recorder.

Answer to Question No. 5: For radio programs that incorporate live phone calls, a telephone hybrid interface is essential for connecting phone lines to the mixer console. This interface allows broadcasters to seamlessly integrate caller audio into the broadcast, facilitating interactive discussions, interviews, or call-in segments.

Answer to Question No. 6: Teleprompters, also known as Studio prompters, play a pivotal role in news, sports, and weather programs by enabling hosts or journalists to effortlessly read prompts while maintaining eye contact with the camera.

Answer to Question No. 7: Final Cut Pro, Adobe Premier Pro etc. are used for video editing and Adobe audition, Pro tool etc. are used for audio editing.

Answer to Question No. 8: A video mixer stands as the central component within a television studio, serving as the hub for broadcasting operations. It enables users to seamlessly switch between desired sources using both simple and intricate transitions, while also facilitating the creation and management of virtual sets.

Answer to Question No. 9: The Audio Processor is very significant for a radio broadcast. It improves and optimizes sound quality, giving radio programs a unique character and appeal. By adjusting parameters such as compression, equalization, and effects, producers can create a signature sound that sets their station apart from others.

Answer to Question No. 10: The producer oversees the entire production process, managing the budget, coordinating with various stakeholders, and ensuring that all elements of the production come together smoothly.

Answer to Question No. 13: Makeup artists enhance the appearance of on-screen talent by creating desired looks that complement their characters and suit the requirements of the production. They contribute to the overall visual quality of television programs.

Possible Answer to SAQ 1: During the production phase of electronic media programs, several challenges commonly arise, requiring careful navigation and problem-solving to ensure a successful outcome. One significant challenge is managing resources and personnel effectively. With numerous moving parts, including actors, crew members, and equipment, coordinating everyone's efforts can be complex. However, as highlighted in the content, efficient management of resources and personnel is crucial. Clear communication, strong leadership, and effective delegation help streamline operations and keep the production on track.

Another challenge is ensuring smooth operations on set. Technical glitches, unforeseen circumstances, and interpersonal conflicts can disrupt filming and delay production. The content emphasizes the importance of quick thinking and adaptability in navigating these challenges. Problem-solving skills and the ability to think on your feet are essential for overcoming obstacles and keeping production moving forward.

Additionally, maintaining creative vision amidst the hustle and bustle of production can be challenging. Balancing artistic expression with logistical considerations requires careful planning and attention to detail. As discussed in the content, the director plays a pivotal role in translating the script into effective audio and video messages, guiding the visual storytelling process, and ensuring that the creative vision is realized on screen.

Overall, while challenges are inevitable during the production phase of electronic media programs, they can be addressed through effective communication, strong leadership, and creative problem-solving. By fostering a collaborative and supportive environment, production teams can overcome obstacles and deliver high-quality content that resonates with audiences.

Unit: 2

Unit Structure:

2.1 Introduction

Radio and television programmes come in various formats, each designed to engage and captivate audiences in different ways. Some common formats found in both mediums are features, documentaries, Talks, Talk Shows, Running Commentary/Live Commentary, News and Current Affairs, Musical Programmes, Drama. However, there are some formats which are only suitable for television. These are- Situation Comedy or Sitcom, Talk Shows, Reality Shows and Game Shows.

2.2 Objectives

In this Unit we will try to understand the various formats of radio and television. After going through this unit you will be able to differentiate each format from the other, their production technique and actual production. You will also know why different formats are necessary to catch the attention of the listeners or viewers.

2.3 Radio Programme Formats:

The requirements of all the listeners of radio stations are not the same. To serve them, radio stations broadcast programmes of

different types. Even the presenter of the programme in different formats is known differently. In traditional Radio stations the presenter is called Announcers. The commercial radio channels may call them Radio Jockeys (RJs) or anchor persons. So Radio formats decided on the basis of the needs of the audience. The requirement or need of the audience depends upon-

(a) The total population of the area.
(b) Number of men and women — Sex ratio.
(c) The languages spoken in the area.
d) Literate people/Illiterate people- literacy Rate.
(e) Number of Schools/Colleges.
(f) Children going to school
(g) Health facilities — availability of doctors, primary health centre, clinics, hospitals.
(h) Any major diseases affecting the area.
(i) Religions in the area-population wise.
(j) Power supply.
(k) Nearest radio stations/Television stations.
(l) Climate of the place.
(m) Main occupation of the people.
(n) Income per head/people below poverty line.
(o) Roads/transport facilities.
(p) Irrigation facilities.
(q) Number of people engaged in agriculture/other occupations.
(r) Types of crops.

Radio format can be split into three parts. They are:-

(a) Spoken Word or Human Voice
(b) Music
(c) Sound Effects

1. Spoken Words

Announcements- These are specifically written clear messages to inform. They can be of different types. These announcements have become informal and resemble ordinary conversation.

1 Radio Talks

The radio talk probably is the oldest format on radio. There has been a tradition in All India Radio and BBC to invite experts or

prominent persons to speak for 10 or 15 minutes on a specific topic. These talks have to go through a process of being changed into radio's spoken word style. Over the years long radio talks have become unpopular. Instead, today, shorter duration talks are broadcast. Of course, we can listen to these talks only on public service broadcasting stations.

3. Radio interviews:

There are different types of interviews in terms of their duration, content and purpose.

First, there are full fledged interview programmes. The duration of these may vary from 10 minutes to 30 minutes or even 60 minutes depending up on the topic, and the person being interviewed. Most of such interviews are personality based, long interviews with well known people in the field of public life, literature, science, sports, films etc.

Secondly, there are interviews which are used in various radio programmes like documentaries. Here the interviews are short, questions specific and not many. The purpose is to get a very brief, to the point a lot of interviews or interview based programmes in news and current affairs programmes. answer.

Thirdly there are Phone-in-programmes, which were become popular in the last decade of the twentieth Century. These interviews have been made interactive by incorporating live interviews with listeners and putting the queries raised by the listeners directly to the guests sitting in the studios.

There is another type of interview based programme. Here generally just one or two questions are put across to ordinary people or people with knowledge on some current topic to measure public opinion. Such programmes are called 'vox pop' which is a Latin phrase meaning' voice of people'. For example, Radio Reporters go out and ask the general public about their opinion about the Union Budget on De-moneitisation or abrogation of Article 370 from J & K. Their (Interviewees) names and identity may not be asked.

4. Radio discussions:-

In radio, this technique is used to let people have different points of view on matters of public concern. Radio discussions are produced

when there are social or economic issues which may be controversial. So when different experts meet and discuss such issues, people understand various points of view. Generally, these discussions on radio are of longer duration-say 15 to 30 to 60 minutes. Two or three people who are known for their views and a well informed senior person or journalist who acts as a moderator take part and discuss a particular topic. The moderator conducts the discussion, introduces the topic and the participants and ensures that every one gets enough time to speak and all issues are discussed.

5. Radio documentaries/features:

Documentary is based on real people and issues. Unlike documentary films in television, radio documentaries have only sound – i.e. the human voice, music and sound effects. So a radio documentary is a programme based on real sounds and real people and their views and experiences. Radio documentaries are based on facts presented in an attractive manner or dramatically. Radio documentaries are radio's own creative format. The producer of a documentary needs to be very creative to use human voice, script, music and sound effects very effectively. Radio documentaries are also called radio features.

6. Radio drama:

A Radio drama or a radio play is like theatre drama. The only difference is that while a stage play has actors, stage, sets, curtains, properties movement and live action, a radio play has only three components. They are the human voice, music and sound effects. Radio uses its greatest strength for producing radio plays and that is the power of imagination and suggestivity. For example, if you want to have a scene in a radio play we don't have all physical arrangements made. All that you have to do is to use a bright tune on the excited voices of people to create in a listeners' imagination, a wedding scene. The voice of the actors, music and sound effects can create any situation in a radio play.

7. Running commentaries:

Running commentaries on radio can be on various sports events or on ceremonial occasions like the Republic Day Parade or events like festivals, melas, rath yatras, swearing in ceremony of ministers, last journey (funeral procession) of national leaders. A

commentator would give us all the details of the match such as the number of players, the score and position of the players in the field etc. So by listening to the running commentary, you get a feeling of being in the stadium and watching the match. The commentator needs good communication skills, a good voice and knowledge about what is going on. Even today radio running commentaries especially of cricket and other sports are popular to a certain extent.

8. Magazine programmes:

Radio Magazine programme has plenty of variety in contents. Some or many formats of radio are included in a radio magazine. These may be talks, discussions, interviews, reviews, music etc. Likewise, the duration of each programme or item in a magazine programme also vary. A radio magazine is broadcast at periodicity (a particular time on a particular day of a week or a month). Another characteristic of a radio magazine is that it has a signature tune. A signature tune is an attractive piece of music which is specific to a programme played in the beginning or at the end of the programme. A magazine programme also has a name and one or two presenters or anchor persons who link the whole programme. Magazine programmes are generally broadcast for a special or specific audience.

9. NEWS:

Among all the spoken word formats on radio, news is the most popular format. News bulletins and news programmes are broadcast every hour by radio stations. In India, only All India Radio is allowed to broadcast news, (although, of late, Private FM Channels are allowed to take the news already broadcast by All India Radio) . Duration of news bulletins vary from 5 minutes to 30 minutes. The longer news bulletins have interviews, features, reviews and comments from experts.

II. MUSIC :

Music has been the main stay in radio since its inception. There is no radio station without music. Music is used in different ways on radio. There are programmes of music and music is also used in different programmes. These include signature tunes, music used as effects in radio plays and features. India has a great heritage of

music and radio in India reflects that. Let us understand the different types of music.

Classical Music

The three types of classical music in India are.

1. Hindustani classical
2. Carnatic classical
3. Western classical

There are also light classical music forms like, Thumri and Dadra. Insturmental music forms include string (sitar, sarod etc.) wind (like flutes, shehnai) and percussion (drum) instruments. All India Radio broadcast a large variety of devotional and folk music across the country. While there are film songs in different languages, the one with a national appeal and popularity is Hindi film songs. On most radio stations, be it public service or commercial, Light western and pop music are also popular among some groups of listeners and there is a large section of young people listening to western pop music.

III SOUND EFFECTS

In radio formats sound plays a major role in evoking interest.
For comic effects to evoke laughter, to create certain moods or enhance them sounds are effectively used.

2.4 Television Program Formats:

There are some formats which are most suitable for television.

a. Sitcoms (Situation Comedies): These are fictional comedy series featuring recurring characters in a common setting. Sitcoms often revolve around everyday life situations and aim to entertain through humor and relatable scenarios.

b. News Programs: Similar to radio, television news programs deliver current events, breaking news, weather forecasts, and investigative reports through a visual medium.

c. Reality Shows: These formats depict unscripted events and situations, often focusing on competitions, challenges, or reality-

based storytelling. These programs can cover a wide range of topics, from talent competitions to lifestyle and survival themes.

d. Drama Series: Television dramas showcase scripted stories and fictional characters in various genres such as crime, romance, thriller, and historical settings. These programs aim to engage audiences through compelling narratives and character development.

e. Documentary Programs: These formats aim to inform and educate viewers about real-life events, individuals, and topics through factual storytelling, interviews, and archival footage.

f. Game Shows: Television game shows involve contestants participating in various challenges, quizzes, and competitions to win prizes. These formats are designed to entertain and engage audiences through interactive elements.

g. Talk Shows: Similar to their radio counterparts, television talk shows feature hosts and guests discussing a wide range of topics, often including interviews, audience participation, and entertainment segments.

h. Children's Programs: Specifically tailored for young audiences, children's programs feature educational content, animated series, and live-action shows designed to entertain and educate kids.

Television interviews

in Indian television several popular formats that are similar to those used in other countries around the world. Here are some of the common television interview formats followed in India:

1. One-on-One Interviews: This format involves a single interviewer engaging in a conversation with a single guest. The focus is on an in-depth discussion between the interviewer and the guest. One-on-one interviews are often used for high-profile personalities, such as politicians, celebrities, and newsmakers. The format allows for a deep exploration of the guest's thoughts, ideas, and experiences.

2. News Interviews: News interviews are a common format for television journalism in India. Journalists conduct interviews with newsmakers, experts, and eyewitnesses to gather information and

provide analysis on breaking news stories. These interviews are often conducted on location or in a studio, and they provide viewers with firsthand insights into the latest developments.

3.Panel Discussions: Panel discussions are a popular format for television interviews in India. In this format, a moderator or anchor leads a discussion involving multiple guests who offer their perspectives on a particular topic. Panel discussions are often used for debates, political analysis, and discussions on current events. This format allows for a dynamic exchange of ideas and opinions from a diverse group of participants.

4. Talk Shows: Talk shows are a staple of Indian television interview formats. Hosted by a charismatic anchor, talk shows often feature celebrity guests, experts, and public figures. The format allows for a mix of interviews, entertainment, and audience interaction. Talk shows can be focused on a wide range of topics, including politics, entertainment, lifestyle, and current affairs.

5. In-depth Profiles: Some television interview formats in India focus on in-depth profiles of individuals, organizations, or issues. These profiles often incorporate interviews with multiple sources, archival footage, and expert analysis to provide a comprehensive understanding of the subject. In-depth profiles may be part of documentary-style programming or news magazine shows.

6. Celebrity Interviews: Indian television often features celebrity interviews, which are often lighthearted and entertaining. These interviews may take the form of promotional appearances for films, music, or other projects, and they often focus on the personal lives and careers of the guests. Celebrity interviews are a popular format for entertainment-focused programs.

7. Investigative Interviews: In-depth investigative interviews are another format used in Indian television. Journalists conduct interviews with whistleblowers, investigative subjects, and experts to uncover hidden truths, expose corruption, or shed light on important social issues. These interviews often require extensive research and careful preparation to delve into sensitive topics.

8. Live Interviews: Many television interview formats in India are conducted live, allowing for immediate interaction with the audience and real-time responses from guests. Live interviews can

add an element of spontaneity and urgency to the conversation, especially when covering breaking news or unfolding events.

9. Comedic Interviews: Some television interview formats in India blend humor and entertainment with interviews. Comedians and hosts engage in playful, lighthearted conversations with guests, often focusing on comedy, entertainment, and pop culture. These interviews aim to entertain viewers while providing a casual platform for guests to showcase their personalities.

Overall, television interview formats in India cover a wide range of styles and subjects, reflecting the diverse interests and tastes of the audience. These formats play a crucial role in shaping public discourse, sharing information, and providing entertainment to viewers across the country.

STOP TO CONSIDER

Radio and television programme formats, are designed to engage and captivate audiences in different ways. Features, Documentaries, Talks, Talk Shows, Running Commentary/Live Commentary, News and Current Affairs Musical Programmes, Drama are some common formats of radio and television. Sitcom, Talk Shows, Reality Shows and Game Shows are exclusive Television formats. Musical programmes are the mainstay of radio programmes since long. News and Current Affairs are important formats in both radio and television. Reality Shows and Game shows are as popular programmes in India as the rest of the World. These formats demonstrate the wide range of content that radio and television offer, catering to diverse audience preferences and interests. Each format is tailored to deliver specific experiences and engage viewers and listeners in unique ways.

CHECK YOUR PROGRESS:

SELF ASKING QUESTIONS(SAQ)

What are the most popular radio programme formats?
'Programme formats are determined on the basis of needs or requirements of audiece'-do you agree?
What are the factors that are to be considered while deciding a particular programme format?

What according to you is the most popular interview format in Indian television?
What is 'Vox Pop'? In which programme format it is used?
What are the main differences of Radio Interview and Television Interview?

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Unit: 3

Unit Structure:

3.1 Introduction

Radio and television programmes come in various formats such as Talks, Talk Shows, Running Commentary/Live Commentary, News and Current Affairs Musical Programmes, Drama etc. Situation Comedy or Sitcom, Talk Shows, Reality Shows and Game Shows are some formats for television. Even for Public Service Broadcasters, revenue generation holds paramount importance for survival of the stations or Channels. Advertisement is the most important and largest source of revenue generation of all Channels. But the challenge is how to make any programme popular so that Advertisers will pour more money in a particular format at a particular time slot. The understanding of Radio and Television format is of utmost importence to the Advertising Department of each channel.

3.2 Objectives

In this Unit we will try to understand the various formats of radio and television in the context of Advertisement.. After going through this unit you will get to know various aspects of Advertisements. You will also know why different formats are chosen for promoting advertising messages most effectively.

3.3 Different types of radio advertisement

Just as a business could promote itself online via YouTube video ads or sponsored social media posts, there are different types of radio advertisement to choose from. One should consider which

format to adopt carefully with your advertising campaign's target audience and objectives in mind.

Radio jingles

Jingles are the easiest to recall of all radio ad formats, capitalising on the link between music and memory. These sound bites become embedded in the collective consciousness of consumers. A snappy jingle can be a great way to stimulate sales through short radio ad segments once you've built up enough brand awareness.

Straight reads

Similar to a jingle, a straight read is another type of 'produced spot' where the advertiser creates the message for broadcast. This is the most common type of advertisement that you'll hear on the radio, involving one or more voices reading out a message that emphasises the benefits of the brand, product, or service.

Straight reads tend to feature some form of contact information like a website or phone number as well as a call to action that encourages the listener to get in touch or make a purchase. These radio advertisements are not only effective at driving sales but also generating awareness of your brand in the first place – for this reason, radio ads will often combine a straight read with a jingle to influence consumers who are at different stages of their relationship with the brand.

Sponsorships

The key to excellent response rates in radio advertising is repetition. Sponsorships allow your business to reach potential customers again and again in a subtle way that integrates into the radio show's natural flow. By sponsoring a segment such as the news or a competition, you can catch listeners when they're at their most engaged. Your brand becomes a part of the show in this way, slowly encouraging its fans to seek out your products or services over time. There are generally more opportunities for sponsorships with niche or local radio advertising.

Live reads

A live read involves the radio show host reading out your advertisement on your behalf. Like sponsorships, this format ensures that your ad and your brand are assimilated into the radio

channel itself, helping you to reach dedicated enthusiasts and niche consumer segments who follow a certain show. Live reads are also more persuasive: we tend to listen more to what others have to say about a brand than the company itself, particularly if they're an influential figure like a Radio Jokey.

1.4 Radio and Television Copy:

"Copy" refers to the scripted content of advertisements or promotional materials. It encompasses the words, phrases, and messaging that is written to convey a specific marketing message to the Radio/TV audience. Copy is crucial in capturing listeners/viewers' attention, sparking interest, and ultimately prompting them to take a desired action, such as making a purchase or visiting a website.

Radio advertising Copy

Radio advertising offers its clients the chance to reach the right audience, boost brand awareness, and stimulate sales. This type of advertisement lets the Advertisers to spread their message to huge numbers of listeners. Equally, radio ads allow for intelligent targeting of specific locations and demographics through your choice of station.

Radio advertising is the use of a radio station to promote the advertiser's goods or services. The less expensive and more targeted cousin of TV ads, this traditional type of marketing communication is well suited to companies looking to reach consumers with particular interests (e.g. fans of certain musical genres or sports) or regional markets through local radio advertising.

The advertising process on the radio typically involves an organisation booking ad slots: the advertiser pays the radio station for pre-defined amounts of airtime, during which the station will broadcast the desired message to its listeners. We'll explore the cost of these radio ad slots and factors to consider when booking them below.

Audience type and target segments

First and foremost, the need to research the demographics of the radio station or channel in consideration and accordingly select the radio stations carefully keeping in view the organisation's target segments. For example, a brand looking to target Retirement Benefit Schemes would fare better advertising on All India Radio than with Big FM, as the core audience of All India Radio is over 50 years old.

With this in mind, it's important to think about how their ads' timing fits in with the target consumer. Late morning radio ads are unlikely to get through to professionals in the 30-40 age bracket but could prove highly successful if the brand targets the student population.

When writing a good copy for a radio advertisement, it's important to keep in mind that the audience will only have the audio to engage with. For creating effective radio ad copy these things should be kept in mind:

i) Grab Attention: Start with a strong hook to grab the listener's attention within the first few seconds. This could be a compelling question, a bold statement, or a catchy jingle to draw the audience in.

ii) Know Your Audience: Understand the demographics and interests of the audience for the radio station you're targeting. Tailor your message to resonate with them and address their needs or desires.

iii) Clear Message: Keep the copy simple and concise. Clearly communicate the key message or offer you want to convey. Avoid using jargon or complex language that could confuse listeners.

iv) Create a Visual Story: Since the audience can't see the product or service, use descriptive language and storytelling techniques to help listeners visualize the benefits or experience. Paint a vivid picture with words.

v) Call to Action: Encourage the audience to take specific action, whether it's visiting a website, calling a phone number, or visiting a store. Make the call to action clear and compelling.

vi) Establish Branding: Include the brand name or product name multiple times throughout the ad. Reinforce brand recognition and association with the message.

vii) Use Sound Effects: Consider using sound effects or background music that complements the message and adds to the overall atmosphere of the ad. Be mindful of the tone and mood you want to convey.
viii) Testimonial or Expert Voice: If relevant, consider incorporating a customer testimonial or an expert voice to add credibility and authority to the message.
ix) Time Considerations: Keep in mind the duration of the ad slot. Write copy that fits the allocated time precisely and allows for any required legal disclaimers.
x) Revise and Refine: After writing the initial draft, read the copy aloud to ensure it flows smoothly and effectively conveys the intended message. Revise and refine the copy as need**ed.**

Television copy:

Television copy is often tailored to the visual medium, aiming to complement and enhance the impact of the accompanying audio-visual elements. This may include a captivating storyline, persuasive dialogue, and a clear call-to-action. The key components of effective television copy include:

1. Attention-Grabbing Opening: The copy should start with a compelling hook to captivate the audience's attention immediately. This might involve posing a thought-provoking question, sharing an intriguing fact, or setting a scene that draws viewers in.

2. Clear Messaging: The copy should communicate the main selling points of the product or service in a clear and concise manner. This includes highlighting unique features, benefits, and any special offers or promotions.

3. Emotional Appeal: Utilizing emotional triggers in the copy can help create a connection with the audience. Whether it's through humor, empathy, excitement, or nostalgia, evoking emotions can make the advertisement more memorable.

4. Call-to-Action: The copy should clearly instruct the audience on what action to take next, whether it's visiting a website, calling a toll-free number, or visiting a local store. A strong call-to-action is essential for guiding viewers toward making a purchase or learning more about the product or service.

5. Voiceover and Dialogue: For commercials featuring voiceover narration or characters engaging in dialogue, the copy is written to reflect the intended tone, personality, and style. This ensures that the delivery matches the brand's image and resonates with the target audience.

Crafting effective television copy requires a deep understanding of the target audience, the product or service being promoted, and the overall marketing objectives. It's a delicate balance of creativity, persuasive language, and strategic messaging designed to leave a lasting impression on viewers and drive desired outcomes.

3.4 Advertisement in Electronic Media:

Creating an advertisement for Electronic Media involves a strategic combination of compelling visuals, engaging audio and persuasive messaging. Some steps for crafting a television advertisement are:

1. Defining Objective: For creating an advertisement the specific goal of the advertisement must be defined. Whether the aim is to raise brand awareness, promote a new product, or drive sales? Clearly outlining the objective will guide the direction of an advertisement.

2. Knowing the type of Viewer or Audience: Understanding the nature of targeted Viewer or Audience is one of the major requirements of advertisers. The demographic composition, including their preferences, interests, and behavioral patterns of the viewer/audience should be tailor made to resonate their specific choices.

3. Developing a Concept: Developing creative concepts that align with brand specific identity must be considered to capture attention of the target viewers/audience in order to convey the message in a memorable way.

4. Scripting a good Copy: Writing a compelling script that conveys the core message effectively is key to successful advertising. The script should include a captivating opening, clear product or service benefits, and a strong call-to-action. Consideration must be given on how the audio-visual elements will complement the copy.

5. Visual Elements: How the visuals will enhance the message should be visualized in advance. Planning for attention-grabbing

scenes, captivating imagery, and shots that showcase the product or service in an appealing light are some of the major element of advertising.

6. Selection of Engaging Audio: Choosing a fitting soundtrack or audio elements that complement the visuals and enhance the emotional impact of the advertisement is another factor to reckon with the audio should align with the tone and message of the advertisement.

7. Production Planning: The production logistics, including casting, location scouting, set design, and any special effects or animations needed to bring the original concept to life should be cohesive

8. Production and Filming: All the necessary elements to film the advertisement should be brought together to ensure that the execution aligns with the creative vision and messaging.

9. Post-Production: Then comes editing of the footage, addition of visual effects or animations, and synchronization of the audio to create a polished, cohesive advertisement.

10. Testing and Refinement: It is also necessary to gather feedback from focus groups or colleagues in the field to make necessary adjustments to enhance the impact and effectiveness of the advertisement.

11. Media Placement: To reach the target audience effectively it is also very important to select the optimal time slots and channels for airing the advertisement.

12. Measuring Effectiveness: After the advertisement goes on air, to evaluate its impact such as viewer engagement, sales trends, and brand recognition should be analyzed.

Throughout the process, the advertisement's main message, the target audience, and the overall brand image must be kept at the forefront. By carefully crafting each element of the advertisement, one can create a powerful and compelling ad that resonates with viewers and drives the desired action.

STOP TO CONSIDER

Just like YouTube video ads or sponsored social media posts, there are different types of radio advertisement for the target audience. "Copy" refers to the scripted content of advertisements or promotional materials. Writing a good copy for radio it is important to keep in mind that the audience will only have the audio to engage with. Establishing Branding

with clear message is the prime ingredient of radio and television advertising. Reinforcement of brand and target's association with the message can be achieved through repeated advertising. Creating an advertisement for Electronic Media involves a strategic combination of compelling visuals, engaging audio, and persuasive messaging.

CHECK YOUR PROGRESS:

SELF ASKING QUESTIONS(SAQ)

How important is the understanding of Radio and Television formats for the Advertisers?

What are the different types of Advertisements used in Radio? In which advertisement music and messaging are cleverly used?

What are the factors that are to be considered while deciding a particular Advertisement in Radio and Television?

How important it is to balance creativity, persuasive language, and strategic messaging designed to leave a lasting impression on viewers and drive desired outcomes in Television Advertising?

What are the main stages of Radio and Television Advertising- from developing concept to media placement?

3.6 References:

1. A Guide Book of Radio and Television. By Santosh Debnath(Dey's Publication)
2. Mass communications: Press, radio, T.V., films, advertising, and other media : with special reference to Indian conditions. By B. N. Ahuja, & S.Batra, (Varma Brothers)
3. *The History Of Indian Advertising In Ten-And-A-Half Chapters* By *Ritu Singh* (Hachette)
4. Radio and Television. By Survi Agarwal,(Himalaya Publishing House)
5. Basics of Advertising By Praveen Kumar Lamba and Mansi Bansal (J S R Publishing House)

Unit:1

Understanding Studio

Unit Structure:

1. Introduction

We are familiar with the concept of television studios. Every time we switch to a news broadcasts, talk shows or game shows, we usually see these studios. Nevertheless, there are times when we fail to identify studios in films or sitcoms because of how authentic the settings appear. The television industry revolves around television studios, which serve as the central hubs for the production and broadcasting of various television content. With their state-of-the-art technology, these spaces provide the perfect environment for bringing television programs to fruition, thanks to the dedicated teams of professionals working diligently behind the scenes. In this chapter, we will explore and delve deeper into the intricate workings of the TV studio. This will include gaining a comprehensive understanding of the different parts that make up the studio, as well as the efficient management techniques required to ensure its smooth operation. Additionally, we will learn about the roles and

responsibilities of the crew members who tirelessly work to bring the imagination to life.

2. Objectives

This unit is an attempt to give you an understanding of television studio. After going through the unit you will be able to-

- Discuss the concept of television studio
- Explain how television studio is managed
- Discuss different parts of television studio
- Discuss the role of production crew in production

3. Understanding Studio

Television Studios are dedicated environments where the production of live broadcasts or recordings for future broadcasting takes place. The design bears resemblance to movie studios, albeit with a few modifications tailored to its specific needs. They are created with a focus on accommodating various productions, while remaining unaffected by external environments. Studios are constructed using materials such as brick and concrete, and they are enveloped with stretched fabric in order to absorb sound and minimize echo. Some studios are constructed in the shape of an egg to create a more balanced and natural acoustic environment, as well as to minimize sound waves and unwanted reverb. The studio ceiling is coated with black paint to mitigate light refraction. The studio features high ceilings that are specifically built to accommodate set materials and lighting grid. The lighting grid refers to the suspended network of bars and pipes installed in the studio to provide support and distribution for lighting instruments, cables, and other essential lighting equipment. The suspended bars and pipes are commonly known as *battens*, and the crew members who are in charge of the lights are referred to as *gaffers*. Moreover, the heat generated by the halogen lights can be effectively dissipated due to the presence of a high ceiling.

TV studios can be classified into three categories: On-Air Studio, Off Air Studio, and Remote Studio. On-Air Studios are specifically designed for the purpose of conducting live broadcasts or recordings that are transmitted in real-time. The usual format for these types of

shows includes live shows, news programs, talk shows, and sport shows. Off-Air Studios are dedicated to pre-recording productions and may be equipped with similar technology to On-Air Studios, with the exception of live broadcasting functionality. This enables the production to take place within a highly regulated environment, providing the opportunity for retakes, refining, and extensive post-production work prior to airing. The Remote Studio or Mobile Production Unit is a specialized facility designed to capture audio-video content in external locations and transmit it to the main studio for further processing. *Electronic News Gathering* (ENG) vans are an example of this type of studio.

3.1. **Differences between TV Studio and Radio Studio**

Although television and radio studios have commonalities, they also have notable distinctions as well. The similarities and differences of the both are noted in the below:

Similarities

Production spaces: Dedicated areas for recording, editing, and mixing content are available in both TV studios and radio studios.

Equipment: Similar audio recording equipment is utilized in both types of studios to capture and manipulate sound during production.

Production workflows: Both studios utilise systematic approaches to content creation, arrange segments, record, and produce programs for broadcasting.

Sound Design: Sound effects, background music, transitions, and audio enhancement are key elements that both studios emphasize in order to provide a rich and immersive experience for their audience.

Differences

Physical setup: To provide enough room for cameras, lighting rigs, sets, props, and production crews, TV studios are typically designed with ample space.

Cameras and lighting: Multiple cameras are strategically positioned from various angles to capture

every detail. Lighting setups are essential for creating the perfect balance of light and shadow, enhancing the appearance of both the sets and the subject.

Set design: Required environments for various shows are created through the use of set designs in TV studios. Programs require careful preparation, including the arrangement of set pieces, props, green screens, and backgrounds.

3.2 S.T.U.D.I.O toolkit

Studios have experienced considerable changes due to the progress and increased accessibility of technology, enabling them to capitalize on these opportunities. Typically, a studio is equipped with several rooms, each serving specific purposes and connected via an intercom system. In order to maintain a seamless workflow in the studio, personnel are categorised and assigned specific responsibilities. Lucy Brown and Lyndsay Duthie prepared a S.T.U.D.I.O toolkit to for studio production (2016: 4-14).

S Set up — The director and producers devote considerable time to meticulously analysing the script and formulating a comprehensive plan for its execution in the studio. This also includes rehearsal for the production, identifying prospective camera angles and manoeuvres for the crew, and allocate positions for presenters and actors.

T Talent — In television jargon, the term “Talent” encompasses actors, presenters, and news anchors. When selecting an actor for a role, it is crucial to assess both their suitability for the part and their compatibility with other cast members or presenters involved in the production. Additionally, when undertaking the casting process, it is important to take into account both the channel’s brand identity and audience’s preference.

U Unity — The success of studio productions hinges upon effective teamwork. The smooth operation of the production relies on everyone effectively completing their assignments. To ensure a successful production, it is of utmost importance to secure a competent crew, given the demanding and protracted nature of the process

D Director — The role of a director supervises the creative aspects in a production, as well as providing guidance to both the crew and on-screen performers. The director must possess a comprehensive understanding of the script and be actively involved throughout the entire production process.

I Innovation — The audience is attracted to a show that stands out with its innovative approach. The members of the editorial team are entrusted with the responsibility of creating inventive and captivating narratives to engage the audience.

O Obstacles — It is recommended to anticipate and make provisions for potential setbacks. It is not uncommon for plans to deviate from expectations in the production process. To ensure the successful completion of production, it is necessary to possess problem-solving abilities and the appropriate attitude.

Self Assessment Questions

- What are the shared characteristics between TV studios and radio studios?

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- What is the Electronic News Gathering (ENG) van?

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Check Your Progress

- Why studios are built in the shape of an egg?

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- The studio ceiling is coated with _____ paint to mitigate light refraction.
  a. White
  b. Black
  c. Grey
  d. Green
- What is the reason for TV studios having high ceilings?

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4. Parts of the Studio

A typical studio can be primarily divided into three sections: the "Studio Floor," "Control Room," and the "Green Room."

4.1 Studio Floor

The studio floor is the designated space for recording all productions. It is a spacious and expansive area dedicated to creating sets for various productions. Sets are usually three-walled rooms. Using furnishings and props, set designers transform the space into any desired setting. *Scene docks* are usually located adjacent to the studio floor, providing storage space for props and set materials. The utilization of *cycloramas* enables the illusion of continuous backgrounds, extending seamlessly from the floor to the ceiling, without any visible edges.

Through the utilization of lighting and scenic elements, the necessary environments are skilfully established in a studio. In most cases, there is a lighting board on the studio floor that is used to control each lighting instrument. Moreover, by utilizing a green or blue screen, directors can seamlessly achieve any desired background using a video switcher during production or by employing chroma-key (Final Cut Pro) or Ultra Key (Adobe Premier Pro) during post-production. In studios, there are multiple cameras that are numbered as Camera 1, 2, 3, and the camera operators are referred to by the corresponding camera number. The studio has multiple monitors placed so that the staff can review and watch the video feeds from the control room.

During a production, the studio floor is bustling with various staff members, including actors, floor directors, camera operators, lighting technicians, sound engineers, set designers, and stagehands. Safety precautions are of utmost importance in a studio, especially when handling heavy and fragile equipment. All personnel must comply with a specific set of guidelines to prevent accidents and injuries. Safety precautions can include placing visible signs in unsafe zones, regularly checking the knobs and screws, ensuring equipment is well-maintained, and wearing safety belts and helmets when working at heights.

Cycloramas: The platform is specifically constructed in a curved shape to achieve the visual effect of an infinite background. Various scenic effects are achieved through painting or lighting.

4.2 Control Room:

Control Room functions as the central command centre, where the director and designated staff oversee the entire production. In Europe, this space is also known as *Gallery.* The Control Room comprises two main divisions: the Production Control Room (PCR) and the Master Control Room (MCR).From the PCR, the director listens and provides guidance to the assistant directors, technical directors, graphic operators, cinematographers, and audio personnels through the intercom headset. By observing the *Quality Control Monitor*, the director assesses the quality of the final production while simultaneously monitoring the live output through the *Program Monitor*. The PCR is equipped with all the necessary

equipment for managing, recording and producing the show. Included in the list are video switchers, audio mixers, monitors, graphics generators, and communication systems. The primary function of MCR is to oversee transmission and ensure the consistency of the broadcast signal. In accordance with the broadcast schedule, the viewer is subsequently presented with the final output, wherein the operators in the MCR insert commercials into the broadcast stream.

Quality Control Monitor: To assess the integrity and quality of the production. Emphasize on inspecting visual and auditory elements.
Program Monitor: Primarily used for real-time monitoring. Emphasize on content, performance, cinematography.

4.3 Green Room:

Green room is a designated area for the talents before and after their performances. Makeup rooms and dressing rooms can usually be found adjacent to the green rooms. The purpose of green rooms is to offer performers a soothing and cozy space for relaxation before and after their recording sessions. Here, one can find the talents occupied with reviewing their scripts, utilizing the available amenities, or awaiting their performance cues. An addition to this, the studio may also offer other facilities, including writer's room, lobbies, library, meeting rooms, canteen, and break rooms.

5. Studio Management

Studio management is crucial for increasing productivity, ensuring efficiency and quality, and achieving business goals. This involves the responsibilities of managing, organizing, and supervising resources within a studio environment. Below, the key activities of the Studio Managers are discussed.

1. Finding clients: Identifying prospective clients and initiating contact with them is an integral aspect of the role. This entails meeting with the clients and demonstrating that the studio can fulfil their expectations by providing high-quality equipment at competitive market prices. The responsibilities of the job include creating and distributing brochures,

conducting email marketing campaigns, and managing social media pages.

2. Client satisfaction: The foundation of any successful business lies in ensuring client satisfaction. Studio Managers are focused on providing the best service and meet the expectations of the clients. To maintain quality standards, they aim to effectively manage both personnel and equipment while actively participating in the preparation of workflows and schedules to ensure timely delivery of the final content. Their collaboration efforts aim to enhance teamwork while effectively identifying and mitigating potential issues. The Studio Manager also provides assistance to technical operators in the process of selecting studio equipment.
3. Facility operations: Studio Managers are in charge of monitoring and managing all aspects of studio operations, which include bookings, equipment inventory, and the upkeep of the physical space. The responsibility may also encompass accounting tasks like payroll and billing.
4. Health and Safety: Studio Managers are responsible for ensuring compliance with health and safety regulations, which involves implementing safety protocols, conducting inspections, and providing staff training.
5. Integration of technology: Identifying promising technologies and integrating them to improve studio operations and foster collaboration.

Self Assessment Questions

- Why sets are usually three-walled rooms?

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- What is the reason behind filmmakers selecting green or blue as the background color for incorporating special effects?

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Check Your Progress

- What are the roles and responsibilities of Studio Manager?
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- What is a Quality Control Monitor?
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- What isCycloramas?

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6. The Production Crew

In order to bring content to life, maintain smooth operations, and uphold the desired quality standards, it is crucial to have the support

and expertise of the production crew, without whom these tasks would be unattainable. Throughout the entire production process, starting from the pre-production planning phase and extending all the way to the post-production editing stage, every single member of the production crew brings their own set of unique skills and expertise, which collectively contribute to the overall success of the project. Now, let's take a closer look and explore the various roles and responsibilities that are typically associated with a TV broadcast production crew:

6.1 Director

As the director, their role in the production process is of utmost importance since they are accountable for shaping the overall vision and direction. Problem solving, decision making, and creativity are considered the top three skills that a director must possess. Generally, the director is employed by a producer, unless they are also serving as the film's producer. It is the director's responsibility to shape the overall artistic direction and atmosphere of the film, requiring close collaboration with producers and other team members to develop a well-defined vision for the project. The director's role involves hiring and overseeing the cast and crew, collaborating with the writers,scouting locations, planning shots with the cinematographer, and ensuring the movie stays within budget and on schedule. During the production, the director guides the actors in understanding their characters and provides them with feedback.In the post-production phase, the director carefully evaluates the footage and works closely with the editor to select the shots and determine the appropriate transitions between them. In addition to their other responsibilities, the director also collaborates closely with the music director, taking the time to review the composition and work together to find a suitable sound design for the film. Once the final cut is done, their next step is to collaborate closely with the marketing department in order to devise effective promotion strategies for the production. Additionally, they are expected to actively participate in various events aimed at addressing the press.

6.2 Floor Manager

The floor manager acts as the director's representative on the studio floor, overseeing the smooth execution of the entire production. A key responsibility of the floor managers is to ensure clear communication and coordination among all participants, including presenters, camera crew, guests, and the audience, so that everyone knows their tasks and the designated timeframes for completing them.To ensure a smooth operation, the floor managers will be present at the production site before the director, carefully check the cameras, lighting, and sound equipment that everything is in order.

6.3 Director of Photography

Director of Photography (DoP) is also known as cinematographer. By capturing the director's vision on camera, they play a key role in the storytelling process.Their duties encompass directing the lighting design for every scene, aiding in shot composition, making lens choices, selecting film stock, and guaranteeing that the visual appearance of the film aligns with the director's intended vision.By collaborating with a talented cinematographer, a director's vision can be elevated to new heights, as the cinematographer brings forth fresh ideas and concepts that the director may not have initially thought of. DoP collaborates with the director to brainstorm ideas, scouts potential locations, creates a detailed list of camera requirements, brings in skilled camera operators, and assumes the role of directing the camera during the production.

6.4 Editor

The Film Editor works as the head of the editing department in close collaboration with the director to achieve their artistic vision for the film. Although their primary role is during the post-production phase, they will also play an important role in the pre-production and production phases. In the pre-production stage, editors engage in brainstorming sessions with the core team to discuss and visualize ideas for the production. They work together with the writers and director to determine the approximate timing of each scene and the smooth transition between scenes. In order to easily address any errors, they cut and review rough footage on a daily basis during

production. During post-production, they are responsible for editing scenes according to the script, adding sound, ensuring accurate script timings, and creating the title and credit sequence.

6.5 Set Designer

Set designers play a crucial role in the production by crafting the fictional world and ensuring that the director's vision is translated into the scenic design's visual language. They are also involved in set dressing, which includes handling decorations and furniture. In order to understand the creative vision for the production, set designers meticulously analyse the script and hold meetings with the core team. A clear vision for the script is necessary as it provides direction for the set designers when creating the production set.

6.6 Makeup Artists

The expertise of make-up artists lies in their ability to enhance a character's appearance and tailor it to match the demands of the script. They have the ability to create special effects like wrinkles and wounds in order to enhance the character's portrayal.

Self Assessment Questions

- What is the reason behind calling the director the "author" of a production?

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- Explain "A bad editor can make a good film worse."

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Check Your Progress

- What are the roles and responsibilities of Set designer?

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- What are the roles and responsibilities of cinematographer?

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6. Summing up

Understanding the studio inside out is absolutely crucial for a number of reasons. These include the developing technical proficiency, maintain an efficient workflow, and have a thorough understanding of what the studio equipment is capable of and what its limitations are. The focus of this unit was to familiarise you with the operations of a television studio, as well as understand the S.T.U.D.I. O toolkit to effectively equip yourselves for future endeavours. You are now familiar with the construction and functioning of TV studios. Moreover, this unit has outlined the duties and responsibilities of the production crew, allowing you to acquire the knowledge necessary to maintain an efficient workflow in a production.

Model Questions

- Discuss the S. T. U. D. I. O toolkit by Lucy Brown and Lyndsay Duthie.

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- What advantages does a TV studio offer in production?
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- Discuss the role of Director in the production.
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6.7 References

Brown, L., & Duthie, L. (2016). *The TV Studio Production Handbook*. Bloomsbury Publishing.

Owens, J. (2020). *Television production*. Routledge.

Orlebar, J. (2002). *Digital Television Production: A handbook*. Bloomsbury Academic.

Unit-2

Sound in Electronic Media and Types of Microphone

Unit Structure:

2.1 Introduction

Whether we are talking about audio media like radio or audiovisual media like television, audio seems to be one of the keywords in both. Thus, sound or audio plays a very important role in electronic media. Not only the voice, the capable selection of background sound can transform a simple piece of video or audio into something that can claim the absolute attention of the audience.

French film director Robert Bresson said,

"The ear goes more toward the within, the eye toward the outer."

Sound, in electronic media, from the ambient noises to the music and effect, is as much critical as that of the visual. In audio media, it's all there is. Sound can be used for foreshadowing, guiding the narrative, defining the emotion and ambiance, and also to jerk the audience out of the auditory trance from the scene. In many films, sound is treated less like a tool and more like a vital character.

In this unit, we shall read about the role of sound in electronic media and various types of microphones.

2.2 objectives

This unit deals with sound and microphones. After studying this unit, you will be able to:

- Define sound in electronic media and explain its various types and applications
- Define microphone and explain how they work.
- Identify the different types of microphones.
- Categorize the microphones based on their polar patterns.

2.3 Sound in Electronic Media

As you have already gathered from previous chapters, electronic media can be either audio media like radio or audio-visual media like television, film etc. While audio media like radio depend entirely upon the sound to reach the audience, it is equally vital for those of audio-visual media. Sound serves to enhance the imaginations of the audience and to set the atmosphere for the content. In visual media, sound enhances the visuals and acts as one of the crucial indications as to what is going on and what is to come in the visuals. For instance, in a suspenseful scene, foreboding music hints at danger and can height tension. Sound also provides auditory cues that aid us in understanding the narrative, like the uplifting theme music hinting at the entry of the protagonist in a superhero movie.

In audio-visual media, we see sound used for various useful objectives. Those include :

1. **To enhance the visuals:** A story needs both sound and visuals to be complete. When we see two characters speaking in the screen, we need to hear what they are saying, to understand the context. Additionally, a visual devoid of the expected sounds would be bland and unattractive to the audience. For instance, the cackle of a burningfire, the sound of wind passing by the trees, the soft splatter of rain, or the

ticking of a clock can enhance the viewing experience of the audience and make the scene more real to their mind.

2. **To reinforce genre or conventions :** A scene can be defined by the background music. For instance, a shot of a lady about to open a wrapped gift left on her doorstep can belong to many very different genre. However, the background music will cue the audience in to what they are going to expect and thus, establish the genre of the film. A foreboding music might hint the wrapped gift to be a bomb, which would put the film to be thriller or action genre. A piece of soft happy music would hint at a gift expected from someone; exciting and upbeat music might hint of an unexpected romantic gift, which would put the film in romantic or dramatic genre. On the other hand, an eerie and unnerving background music might hint of the film to be in horror genre, in which case the gift might just be a creepy doll or, if the scene wishes to be morbid, a severed head.
3. **To establish the mood, time and locations** : As with establishing genre, the sound can also establish the mood of the scene. A scene of two people conversing over a candlelit dinner table can be defined my the miusic selected for the background. The mood of the two characters and the conversation can be diverse- they might be enjoying the bloom of first love which can be established by a soft romantic backgound music; they might be breaking up, or saying goodbye to each other, which wound be established by a sad haunting tune in the background; or they are two spies waiting for their mark to arrive, in which case, the background music will build up to something exciting. The same can be said about establishing place and time. In most films, a drastic location change in the narration is accompanied by some tune or music that hints of the new location. For instance, in Hollywood films, when to location changes to somewhere like Mexico, the establishing shot is accompanied with Mexican folk tunes.In another example, in a scene shot in a train station, a sound of a passing train along with some background announcements, can establish the location to the degree that the scene might no longer need an visual establishing shot to inform the audience that the location is a train station.

4. **To enhance characterizations** :We see auditory cues to play a huge role in establishing a character. In a film or TV show, when the character is accompanied with a heroic uplifting tune, we feel that this character brings hope. Some movies even have specific tunes designed for specific characters. This ensures that once we hear that certain theme tune, we expect the entry of that specific character.
5. **Effect on audience** :Every sound in a video is added with only one thing in mind and that is to influence the audience. With atmospheric sound, the background music, the wild track, all sound effects are designed to drive the audience to think what the video aims to make them think. The canned laughter of the old comedy shows are a perfect example of this. The laughter at the end of every comedic delivery induced the audience to laugh along with them. However, if we watch the episode without the laughter, it ceases to be as funny as it was and instead feels full of awkward pauses.
6. **Use of silence** : A skillful use of sound in a film is also using the lack of it. A total void of sound can be as effective as a foreboding music or a scary sound effect. This is also used to jerk the audience out of the story and to reality, which is a favored technique of many neo-noir directors.

Stop to Consider

- In electronic media, sound is used to enheance viewer experience.
- In a movie, the tone of the background music tells us a lot about the scene.
- Sound effects are added to make the visuals complete.
- Silence can be used as effectively as sound effects to enhance the visuals

Self Assessment Questions

N.B **1. Your answer should be within 100 words**

2. you may check your answers at the end on the unit

Q.1. how do you think the audience experience differed from now to the silent film era, when there was no audible dialogue?

1.4 Types of Sound in Electronic Media

The sound used in electronic media can be classified into two broad categories- Diegetic Sound and Non-Digetic Sound. Diegetic sound is the sound that has an onscreen source. This type of sound belongs in the onscreen world and it comes from the scene. On the other hand, Non-diegetic sound are the sound put on the track during post-production. This sound does not have a source in the onscreen world and most importantly, the characters onscreen do not hear it and are unaware of its presence.

The word diegetic comes from the word diegesis which has its roots in Greek. Diegesis means the narrative or plot of a story. In filmmaking, the world of the film narration is called the diegesis. Thus, everything that exists within the "world of the story" is diegetic and everything that do not, are non-diegetic.

Diegetic sound is the sound that has its origins in the world of the film. More simply, if the characters on the screen can hear it, then it's diegetic sound. Remember, the source of the diegetic sound is within the world of the story, but it does not have to be featured on screen. For instance, if there is an accident and an ambulance is coming, then the sound of the ambulance siren is diegetic even if the ambulance is notshown on screen.

Examples of diegetic sound are-

1. Ambient sounds: the sound originating from the surrounding area, such as the splatter of raindrops, the deafening blast of an explosion, the sound of a car engine, the hub-bub of a busy road, these are part of the ambiance and hence known as ambient sound. These originated within the world of the story and thus, are diegetic sounds.
2. Dialogue: Dialogue between the characters is also diegetic sound. Even internal monologue is also considered diegetic since it is the voice inside the character's head.
3. Music :Music coming from the world of the story is also in the category of diegetic sound. For instance, music blaring from the car stereo, a piano at the restaurant, and a performer singing at the background -all these are a part of the story the movie is trying to tell. Thus these music will fall in the category of diegetic sound. However, the background music

that does not have a source in the story, and is added during post-production does not fall in this category.

And many more.

Non-diegetic sounds, on the other hand, are those that exist outside of the story's world and are not perceived by the characters. The characters in the story do not hear it and is added to the movie for the ears of the audience only. These sounds are added for the benefit of the audience and enhance the viewing experience.

Examples of non-diegetic sound are-

1. Background music: Musical scores or soundtracks that are not originating from a source within the narrative but are added to enhance the mood, emotion, or atmosphere of a scene.
2. Narration or voiceover: A disembodied voice providing commentary or narration that the characters cannot hear is a huge part of non-diegetic sounds in a film
3. Sound effects: Exaggerated or stylized sound effects that are not realistic but are used for emphasis or dramatic effect. For instance in a fight sequence, when a sword is swang, the whooshing sound is exaggerated for the audience’s benefit, or the sloshing of the water in a glass during an earthquake- these sounds would never reach the ears of the audience unless they are heightened to an improbable degree. However, these sounds serve a purpose in the movie. Thus they are categorized as non-diegetic.

Non-diegetic sounds are often used to heighten the emotional impact of a scene, provide additional context or information, or guide the audience's attention or interpretation of events.

Sometimes, in a movie, we see a technique to merge diegetic and non-diegetic sound, seamlessly switching from one to another. This technique is known as trans-diegetic sound. For example, if in a scene we hear water drops falling and in the next scene the tap tap sound marges into the background music, or if a particular piece of music is added in post-production as a non-diegetic sound to add emotional heft to a scene, and then the same song is playing on a car radio in the next scene, that would be trans-diegetic sound.

It can be an effective way to bridge two scenes with different setups without disrupting the flow of the film, as it creates a seamless narrative between scenes that would otherwise be unrelated.

Stop to Consider

- Sound in media is of two types- diegetic and non-diegetic
- Sound that belongs in the world of the story is diegetic. These sounds can be heard by the characters in the movie.
- Sound that does not belong in the world of the story is non-diegetic. These sounds (narration, background music, etc) are added post-production.
- Unlike the narration, which is added to explain the story to the audience, the voice-over inner monologues which are the thoughts of a character, are diegetic.

Foley effects

A huge part of the sound process is adding realistic sound effects, recreated in the safe space inside a studio to filter out unwanted noise. It is not possible to record the background diegetic sounds such as a creaking door, the crackle of the fire or the rustle of the cloth of the characters, without allowing in a lot of other background noises which are not necessary to the auditory experience. Thus, it is important to recreate those sounds and add them post-production. It is a crucial aspect of sound design, contributing to the ambience and the overall auditory characterization of the world of the story.

This process of recreating everyday sound effects to add to the visuals are known as Foley effect. It is named after Jack Foley, one of the first prominent sound effects artists in the film industry.

In this process, specialized Foley artists recreate and record various sounds in a studio setting using different props and techniques. These sounds are then synchronized with the visuals during post-production to create a more realistic auditory experience. Not only that, the radio artists utilize Foley effects to successfully

Some common examples of Foley effects include:

1. Footsteps: Foley artists wear different types of shoes and walk on various surfaces to capture realistic footstep sounds.
2. Cloth movements: Fabrics are manipulated and rustled to recreate the sounds of clothing movements or other cloth-based actions.
3. Object interactions: Props like doors, glasses, utensils, or other objects are used to recreate the specific sounds they make when handled or interacted with.
4. Environmental sounds: Foley artists use specialized tools and materials to recreate sounds like rain, wind, fire, or other environmental elements.

The key advantage of Foley effects is that they allow for precise control and synchronization of sounds with the visuals. By recording these sounds separately in a controlled studio environment, Foley artists can capture high-quality, clean audio that can be seamlessly integrated into the final production.

Foley effects are particularly important in situations where it's difficult or impossible to record the desired sounds during the actual filming or production process. They also provide flexibility to enhance or exaggerate certain sounds for artistic or dramatic purposes.

Check Your Progress

N.B **1. Your answer should be within 100 words**

2. you may check your answers at the end on the unit

Q.2. Explain the fundamental difference between Diegetic and Non-diegetic sound.

Q.3. What is Foley effect?

1.5 Sound equipment for electronic media

The specific equipment used in a media production depends on factors such as the scale of the project, the desired audio quality, the recording environment, and also the budget. There are various sound

equipment used to capture, record, manipulate, and reproduce high-quality audio. Here are some common sound equipment used in media:

1. Microphones:
    - Condenser microphones (for studio recording, voiceovers, and instrumental performances)
    - Shotgun microphones (for on-location filming and capturing directional sound)
    - Lapel microphones (for capturing dialogue and interviews)
    - Dynamic microphones (for live performances and loud sound sources)
2. Audio Recorders:
    - Digital audio recorders (portable devices for field recordings and location sound)
    - Multi-track recorders (for studio recording and multi-channel audio capture)
3. Audio Mixers:
    - Analog mixers (for live sound mixing and recording)
    - Digital mixers (for studio recording, post-production, and live sound reinforcement)
4. Audio Interfaces:
    - USB audio interfaces (for connecting microphones and instruments to computers)
    - Thunderbolt audio interfaces (for high-resolution audio and low-latency recording)
5. Studio Monitors:
    - Near-field monitors (for accurate audio monitoring in recording studios)
    - Midfield monitors (for mixing and mastering in larger control rooms)
6. Headphones:
    - Closed-back headphones (for isolating sound and minimizing bleed)
    - Open-back headphones (for a more natural and spacious sound)
7. Audio Processing Equipment:
    - Equalizers (for shaping and enhancing specific frequencies)

- Compressors and limiters (for controlling dynamic range and levels)
- Reverb units and effects processors (for adding ambiance and special effects)

8. Audio Editing Software:
    - Digital Audio Workstations (DAWs) like Pro Tools, Logic Pro, Cubase, Ableton Live, GarageBand (for recording, editing, and mixing audio)
    - Audio editors like Audacity, Nuendo, and Adobe Audition (for basic editing and post-production)
9. Sound Libraries and Foley Equipment:
    - Sound effects libraries (for accessing pre-recorded sound effects)
    - Foley pits and props (for recreating and recording sound effects in a studio)

This is only a general overview of the equipment that are used in media production. The specific equipment used usually varies depending on the scale and requirements of the media production, as well as the budget and preferences of the sound team.

Stop to Consider

- The sound equipments are two types-

1. For field work- microphones, recorders, monitors, headphones etc.
2. For studio and post production work- Editing equipment, mixers, processing equipment, Foley props etc.

- The formats to store sound are of two basic types-

1. Lossy format- the formats which sacrifice audio quality for storing convenience
2. Lossless format- the formats which retain full audio quality.

1.5.1 Sound formats for media

In media, the recorded sounds are stored in various formats. These formats have their advantages in preserving audio quality, file sizes or compatibility with the various formats of stored visuals. Here are some common sound file formats-

1. WAV (Waveform Audio File Format): An uncompressed audio format developed by Microsoft and IBM. WAV files retain full audio quality but take up a lot of disk space.
2. AIFF (Audio Interchange File Format): An uncompressed audio format developed by Apple. Like WAV, it preserves full audio quality at the expense of larger file sizes.
3. PCM (Pulse Code Modulation): Not a file format itself, but a method of encoding audio data in an uncompressed digital format, often used within WAV and AIFF files.
4. FLAC (Free Lossless Audio Codec): An open-source, lossless audio compression format. FLAC files are compressed to reduce file size while retaining the same audio quality as uncompressed formats like WAV and AIFF.
5. MPEG (Moving Picture Experts Group): A family of standards used for encoding audio and video data. Common audio formats based on MPEG include:

    - MP3: A lossy compression format that trades off some audio quality for smaller file sizes.
    - MP2: An older lossy compression format, now largely superseded by MP3.
    - AAC (Advanced Audio Coding): A newer lossy compression format that generally provides better quality than MP3 at similar bit rates.

6. WMA (Windows Media Audio): A proprietary lossy audio compression format developed by Microsoft. WMA files can have variable bit rates and compression levels.
7. Ogg Vorbis: An open-source, lossy audio compression format. Ogg Vorbis aims to provide quality comparable to other lossy formats like MP3 and AAC while remaining free of patent restrictions.
8. ALAC (Apple Lossless Audio Codec): A lossless audio compression format developed by Apple, often used in music purchased from the iTunes Store.

These formats vary in terms of audio quality, compression levels, and compatibility with different platforms and applications. Lossless formats like FLAC, ALAC, and uncompressed WAV/AIFF retain full audio fidelity, while lossy formats like MP3, AAC, and WMA trade off some quality for smaller file sizes.

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end on the unit

Q.4. What are the key considerations when choosing audio processing equipment for a media production?

Q.5. What are lossless and lossy formats of sound storage?

1.6 Microphones

The most common audio equipment we are familiar with is the microphone (mic or mike in short) and the speaker. We see microphones and speakers everywhere from public meetings and auditoriums to the smartphone in our hands. The microphone takes our voice and converts the sound vibrations into electric current or voltage. A speaker, on the other hand, converts the electric voltage or current to sound. Thus, these two equipments work opposite to each other.

Now, in sound recording, microphone plays a critical role. It captures the sound and converts the vibrations into electrical pulses so that they are stored. A microphone has a diaphragm thatvibrates with the sound vibrations when the pressure from the sound reaches it. Thesevibrationsare converted into proportional voltage using several possible transducers. A transducer is a device that receives electrical, mechanical or acoustic waves from one medium and converts them into related waves for a similar or different medium.

Hence we can say that a microphone (mic) is a transducer that converts acoustical sound energy into electrical energy. Its basic function is to convert sound energy into electrical audio signals which can be used for further processing.

1.6.1 Types of Microphone

Microphones are classified in two ways. Based on directionality, that is to say, depending upon the direction from which the microphone can pick up the sound, they are classified into three

broad types- Unidirectional, Bi-directional, and Omni- directional microphones.

Based on construction, i.e., the type of transducer used in the microphone, they are classified in various types such as- condenser microphone, dynamic microphone, ribbon microphone, carbon button microphone, and others.

Types of microphone based on directionality

A microphone's directionality or polar pattern indicates how sensitive it is to sounds arriving at different angles about its central axis. We have all noticed that in most of the microphones we have used, some catch the voice better only when they are facing the voice source. Some, however, can pick up sounds from all directions and some can only pick up sounds from the front and the back but not from the sides.

Thus, based on the sound pick up pattern of microphones they are divided into the following categories-

Uni-directional : these microphones capture only those sounds which hits their diaphragm straight from the front. Thus, these microphones capture sounds from only one direction and hence is called uni-directional microphones. Some of these highly directional microphones tend to be incredibly sensitive and can capture sound from a good distance. Examples of such microphones are shotgun microphones and cardioid microphones. Most of the commonly used handheld microphones fall into this category.

Bi-directional: Bi-directional microphones receive sound equally from both the front and back of the element. Most ribbon microphones are of this pattern. In principle they do not respond to sound pressure at all, only to the change in pressure between front and back; since sound arriving from the side reaches the front and back equally there is no difference in pressure and therefore no sensitivity to sound from that direction. We see such types of microphones fitted in auditoriums.

Omni-directional : An omni-directional microphone is supposed to catch sound coming from each and every direction. However, the most they can reach are sub-cardioid microphones which, while capable of pick up sounds from all directions, the response sphere(the area in which the sound can be picked up by the

microphone) is larger at the front and smaller at the back. These microphones are usually found fitted in auditoriums and studios.

Types of microphone based on construction

Condenser Microphone: A Condenser Microphone also called a Capacitor Microphone or Electrostatic Microphone has a capacitor or condenser inside made up by two incredibly thin metal plates. The vibrations from the sound wave hits the plates and change the electrical output of the capacitor. Any change in the sound vibrations leads to change of the capacitance and thus leads to voltage change. The voltage is fed to an amplifier to amplify the level of the signal. Condenser microphones were invented in Bell Labs in 1916.

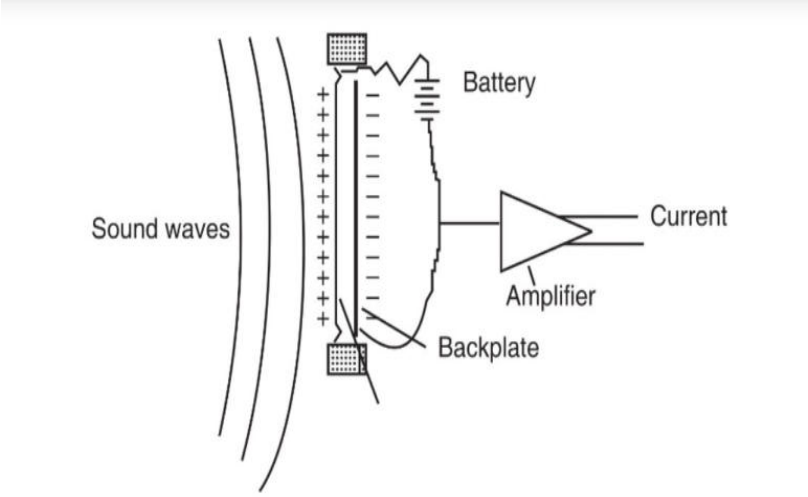


Fig : schematics of a condenser microphone.

Condenser microphones are prized for their sensitivity and precision in capturing sound. These microphones require power (plug-in or a battery) to operate and are commonly used in studio recording, podcasting, and broadcast settings

The **condenser microphone** is made up of two parallel very thin plates, positively and negatively charged respectively. It has a very thin diaphragm with a thickness of only 1 to 10 microns. One micrometer (or micron) is one millionth of a meter or one thousandth of a millimeter.

Close to this plate (metallic or metalised plastic) stands another metallic plate with holes. These 2 plates act as electrodes and are insulated from each other forming a capacitor.

When sound wave pushes the diaphragm, it vibrates and the capacitance of the condenser (or capacitor) changes.. Any change in the separation changes the capacitance. The change in voltage is immediately reflected in the voltage across the resistance in series. Any change in sound leads to change of the capacitance and leads to voltage change and thus the ultimate conversion of sound to electricity.

Dynamic Microphones

Dynamic microphones are known for their durability and versatility, making them popular choices for live performances and recording loud sound sources. These microphones work on the principle of electro-mechanical induction. Within the realm of dynamic microphones, two main subcategories stand out: moving-coil microphones and ribbon microphones.

Moving coil microphones are easy to handle and are commonly used in live sound reinforcement and studio recording. Moving-coil microphones are made for rough handling and can handle high sound pressure levels, making them ideal for capturing vocals, drums, and electric guitar amplifiers. Their sturdiness and affordability make them go-to choices for many musicians and sound engineers.

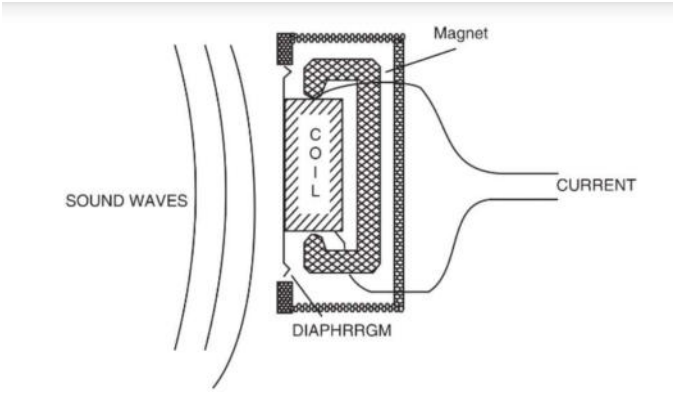


Fig: Schematic diagram of a Moving Coil Microphone

In **moving coil microscopes**, a very small coil is used which is attached to a diaphragm and suspended in a magnetic field of a magnet as shown in

the diagram. When sound waves impinge on the diaphragm it vibrates and attached coil moves. This movement of the coil inside the magnetic field produces a emf across the terminals of the coil. The current so produced in the coil is in proportion to the sound.

Ribbon microphones are a specialized type of dynamic microphone that uses a thin strip of metal (the ribbon) as the diaphragm. Known for their warm and natural sound reproduction, ribbon microphones excel at capturing subtle nuances and high-frequency details. These microphones are suitable for recording in acoustically challenging environments and capturing the rich harmonics of string instruments, brass instruments, and vocals.

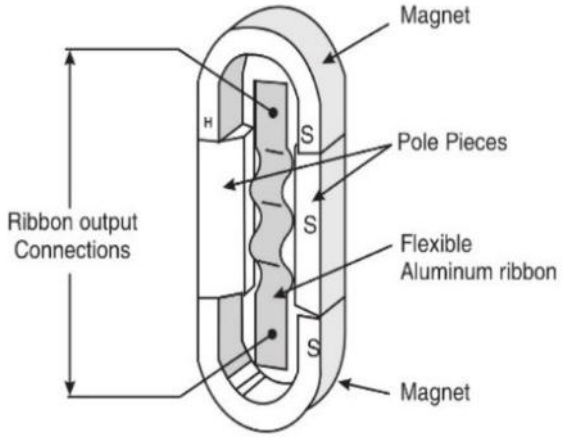


Fig: Schematic diagram of a ribbon microscope

While condenser microphones and dynamic microphones are the most commonly used types of microphones, there are other types in use too. More examples of other microphones include-

A ribbon microphone uses a corrugated ribbon made of a metal is suspended in a magnetic field as shown in diagram. Sound causes the ribbon to vibrate. This means change in magnetic flux through the ribbon. This induces an electric current which drives a speaker. When this current is flown through a coil attaches to diaphragm of the microphone, the diaphragm vibrates and produces sound. Special materials developed using nano technologies are being used to make ribbons that will be light but strong.

Carbon microphone, also known as a carbon button microphone (or sometimes just a button microphone), use a capsule or button containing carbon granules pressed between two metal plates.

Piezoelectric microphone uses the phenomenon of piezoelectricity—the ability of some materials to produce a voltage when subjected to pressure—to convert vibrations into an electrical signal.

Fiber optic microphone converts acoustic waves into electrical signals by sensing changes in light intensity, instead of sensing changes in capacitance or magnetic fields as with conventional microphones

Laser microphones are often portrayed in movies as spy gadgets, because they can be used to pick up sound at a distance from the microphone equipment.

MEMS (Micro Electrical-Mechanical System) microphone is also called a microphone chip or silicon microphone. The pressure-sensitive diaphragm is etched directly into a silicon chip by MEMS techniques, and is usually accompanied with an integrated preamplifier.

Fig: A commonly used dynamic cardioid microphone.

Check Your Progress

N.B 1. Your answer should be within 100 words

2. you may check your answers at the end on the unit

Q.6. Explain the difference between a speaker and a microphone.

Q.7. Describe the ways microphones are classified.

1.7 Summing Up

In this unit we have learned about how sound is used in electronic media. We have learned about diegetic and Non-diegetic sounds and how sound is used in production to enhance the audience experience. We have learned about the various sound equipment used in production and the file formats used to store them. We have also learned about various types of microphone and their construction and uses.

1.8 References and Suggested Readings

Anonymous, 2015, *Sound Engineering Teaching Guide*, SWU

Ballou,G. 2008. *Handbook for Sound Engineers.* Elsevier

1.9 Model Questions

1. Describe the ways sound is used in electronic media. Give examples of the ways audience experience is enhanced through Non-diegetic sounds.

2. what is microphone? Differentiate betweenOmni and Uni-directional microphones

3. Explainthe process of using Foley effects in videos.

1.10 Answers to check your progress

Ans. to Q1.

In the silent film era, audiences had to focus on actors' gestures, facial expressions, and intertitles (text on screen) to understand the

story, since there was no spoken dialogue. Live music and sound effects in theaters helped convey emotions and action. Also, the lack of dialogue meant the gestures needed to be exaggerated and the visual cues more prominent. Today, with spoken dialogue and advanced sound design, movies are more immersive and realistic. Modern audiences rely on a mix of visual and audio elements, making it easier to follow the story without solely depending on visual cues.

Ans. to Q2.

Diegetic sound is any sound that comes from within the story's world, like characters talking, footsteps, or music from a radio that characters can hear. Non-diegetic sound is sound that comes from outside the story's world, like background music or a narrator's voice, which the characters can't hear. Diegetic sound helps make the story feel real, while non-diegetic sound adds emotion or information for the audience.

Ans. to Q3.

Foley effect is the art of creating and recording everyday sound effects to enhance the audio quality of films, television, and other media. These sounds, such as footsteps, doors creaking, or glass breaking, are added in post-production to match the actions on screen, making the scene feel more realistic and immersive. Named after sound effects artist Jack Foley, these effects are crafted in a studio using various props and techniques to ensure they sync perfectly with the visual elements.

Ans. to Q4.

When choosing audio processing equipment for media production, one should consider the project's needs and the desired sound quality. Another consideration would be the budget- the equipment must be the most functional while still under the financial constraints. The audio equipment must also be compatible with the other pieces of equipment such as microphones and recorders. Ease of use and portability would also be factors in this consideration.

Ans. to Q5.

Lossless and lossy formats are two types of sound storage methods. Lossless formats preserve all the original data without any quality loss, making them great for professional audio work or archiving.

Examples include FLAC and ALAC. Lossy formats, on the other hand, compress audio data by removing some details to reduce file size. This compression can result in a loss of quality, but it's often imperceptible to the human ear. Common lossy formats include MP3 and AAC.

Ans. to Q6.

Speakers and microphones are both essential for sound, but they work in opposite ways. A microphone picks up sound and converts it into electrical signals that devices like computers or speakers can understand. It's like a sound receiver. Meanwhile, a speaker does the opposite; it takes electrical signals and turns them into sound that we can hear.

Ans. to Q7.

Microphones are mainly classified in two ways. Based on directionality, that is to say, depending upon the direction from which the microphone can pick up the sound, they are classified into three broad types- Unidirectional, Bi-directional, and Omni-directional microphones.

Based on construction, i.e., the type of transducer used in the microphone, they are classified in various types such as- condenser microphone, dynamic microphone, ribbon microphone, carbon button microphone, and others.

Unit-3

Camera Functions

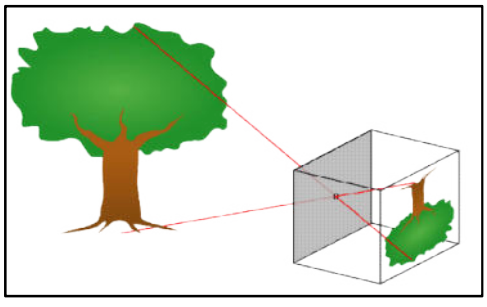
3.1 Introduction

The term “camera” finds its roots in the Latin phrase “Camera Obscura,” which translates to “dark chamber.” The term “Camera Obscura” describes a naturally occurring optical phenomenon where an image of a scene is projected, in a reversed and inverted manner, through a small aperture onto a surface positioned opposite to the

opening. For optimal clarity, it is necessary for the surrounding environment of the projected image to be relatively dark. Based on this principle, around the year 1000 AD, Ibn Al-Haytham, a prominent mathematician and astronomer hailing from Egypt, built the first pinhole camera. In the year 1839, Louis Daguerre, a French artist and inventor, introduced the Daguerreotype process. This revolutionary photographic method employed a silver-plated metal sheet that underwent treatment with iodine, mercury, and hyposulphite of soda. In 1888, George Eastman introduced the Kodak Camera, which was relatively compact and portable. He advertised the camera with the slogan, “You press the button, we do the rest.”The world of photography underwent a transformative shift in 1925 when Oskar Barnack unveiled the revolutionary Leica 1 in Leipzig, Germany. His invention has led him to be referred to as the father of 35mm photography. Steven Sasson, an employee at Kodak, successfully built the first digital still camera in 1975. Utilizing a Charge-Coupled Device (CCD) sensor, Sasson’s invention converted light into electronic signals, enabling digital storage on cassette tape.

Leica 1

Source: Wikimedia



Camera Obscura
Source: Space Awareness

In the modern sense, a camera is a device used for the purpose of capturing and recording visual information. In earlier times, a film roll comprised 36 frames, prompting photographers to exercise caution when capturing images due to the exorbitant cost of film rolls and the arduous nature of developing photos from negatives. In today's era, there is a hardly any contemplation prior to capturing moments with digital cameras, with a preference for storing them in digital drives or sharing them on social media platforms rather than printing them as hard copies. Consequently, this democratization of photography has led to its transformation into a widely embraced medium and hobby.

3.2 Objectives

This unit is an attempt to understand camera and the relevant aspects of it. After going through the unit, you will be able to

- Discuss different types of camera
- Explain the mechanism of DSLR
- Discuss the triangular relationship of shutter speed-aperture-ISO
- Discuss different accessories of camera and their usage

3.3 Types of Cameras

Twin-Lens Reflex Camera (TLR)

This particular camera model features dual lenses with identical focal lengths. The lenses serve two different purposes, with one focused on capturing the subject and the other dedicated to the viewfinder system. Although the viewing image is always visible, the difference in viewpoint (parallax) between the two lenses causes a discrepancy between the image in the viewfinder and the actual framing of the object.

Kinaflex twin-lens reflex camera
Source: Wikimedia

Point and Shoot Camera

These are simple cameras that are especially known for its portability. These products are characterized by their compactness, lightweight nature, and affordability. The lenses on these cameras are fixed, and they typically have digital zoom. The reliance on auto exposure and focus is significant in these cameras.

Yashica T4
Source: Wikimedia

Instant Camera

These cameras have the capability to capture and print the photograph within the device.

Fujifilm Instax 500 AF
Source: Wikimedia

Digital Single Lens Reflex Camera (DSLR)

The functioning of a DSLR camera involves the reflection of light through a lens by a mirror, which is then directed to an optical mirror. When a photo is taken, the mirror moves up, enabling light to reach the image sensor and finalize the picture. The advantage of DSLR cameras over SLR cameras is that photographers can take multiple photos without the hassle of manually changing the photographic film after each shutter press. The advantage of DSLR

cameras is that they come with interchangeable lenses, enabling photographers to adapt to different conditions and choose the most suitable lens. Later on in this unit, we will delve into the specifics of the DSLR camera.

Nikon D5600
Source: Nikon

Mirrorless Camera

The Mirrorless camera gets its name from the fact that it does not have the mirror found in DSLR cameras. Mirrorless cameras use an electronic viewfinder (EVF) to preview the subject, as they do not have a traditional viewfinder because of the absence of a mirror. When using a mirrorless camera, the image is captured by the digital sensor receiving light directly.

Panasonic Lumix GH6
Source: Panasonic

Studio Camera

In professional video production environments like TV and film studios, a studio camera is a specialized camera made for high-quality recording. With a focus on meeting the challenging demands of broadcast and studio production, these cameras offer top-notch image quality and reliability. They are specifically engineered to enhance image quality, achieve colour balance, and optimize exposure levels in real-time. With studio cameras, you can connect

to external devices such as monitors, switchers, and recording equipment through SDI (Serial Digital Interface) and HDMI (High-Definition Multimedia Interface) outputs, providing a wide range of connectivity options. Additionally, they might include ethernet or wireless connectivity for remote control and transferring data. Studio cameras have the versatility to be compatible with a diverse array of studio equipment, such as camera pedestals, cranes, dollies, and robotic camera systems.

Sony XDCAM PXWZ150
Source: Sony

Self Assessment Questions

- What are the advantages that attract people to point and shoot cameras?

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- What makes studio cameras the preferred choice in TV broadcast studios over DSLR or Mirrorless cameras?

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Check Your Progress

- Why mirrorless cameras do not have viewfinder?
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- Where did the first presentation of Leica 1 take place?
  a. Leipzig
  b. New York
  c. London
  d. Monaco

- What is camera obscura? Discuss with a diagram.
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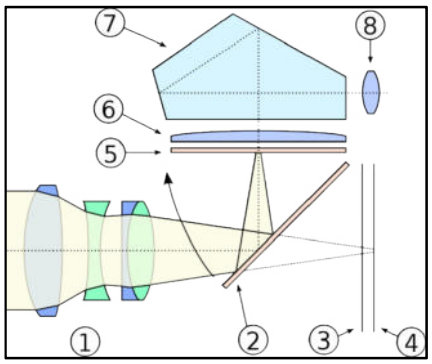
  ……

4. Understanding DSLR Camera

As the light passes through the lens (1), it comes into contact with a reflex mirror (2) that is positioned at a 45-degree angle. The light passes through the focusing screen (5) and condenser lens (6) before reaching the pentaprism (7) and being visible through the viewfinder (8). When the photographer presses the shutter button, the mirror rises (2) and the shutter (3) opens to let light reach the image sensor (4). Once the intended time has passed, the shutter (3) closes again, and the mirror (2) reverts to its original 45-degree angle, allowing the photographer to resume viewing through the viewfinder.



The inside mechanism of a DSLR
Source: Wikimedia

Parts of DSLR
Source: Flickr

4.1 Image Sensor

An electronic chip known as the image sensor is responsible for the conversion of light energy into electric energy in a camera. While the size of the sensor in this camera matches that of a 35 mm film in full frame DSLR cameras, it's important to note that there are numerous DSLR and Mirrorless cameras on the market with smaller sensors as well. The evaluation of a sensor's quality relies on two primary factors: the pixel count and its physical size.Higher the number of pixels on a sensor, more collection of data, ultimately resulting in output with better resolution. CCD (Charge-Coupled Device) and CMOS (Complementary Metal Oxide Semiconductor) have emerged as the primary image sensor options for cameras nowadays.

4.2 Mode Dial of DSLR

Shooting modes can be adjusted by utilizing the Mode Dial on digital cameras. The available camera modes include Auto, Programmed Auto/Professional Auto (P), Shutter priority (S/Tv), Aperture priority (A/Av), and Manual (M).

Mode Dial of DSLR
Source: dummies.com

Auto mode

In this mode, the camera will automatically select the settings according to the available lighting conditions. In this mode, the photographer simply needs to point the camera and press the shutter button, as the camera will automatically determine the appropriate settings. One disadvantage of this method is that it can result in photos that do not match with the photographer's intended vision, often leading to issues like overexposure, underexposure, or an incorrect white balance.

Programmed Shift/Professional Auto (P)

When using this mode, the camera takes care of setting the aperture and shutter speed, but the photographer can manually adjust the ISO and other settings, including flash and white balance. With this mode, you can learn about different DSLR settings without having to worry about exposure and take your first step away from relying on auto mode.

Shutter Priority (S/Tv)

In this particular mode, the photographer sets the desired shutter speed, while the camera automatically adjusts the aperture and ISO settings. This feature is particularly advantageous when there is a need to quickly capture something. In such cases, the photographer can pre-determine the shutter speed while the camera automatically adjusts the remaining settings to ensure a sharp photo.

Aperture Priority

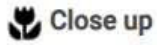
In this mode, the aperture is determined by the photographer, while the camera automatically adjusts the shutter speed and ISO. This setting is employed to achieve a consistent depth of field.

Manual Mode (M)

In this mode, the photographer has all the control over the camera settings, as they set the shutter speed, aperture and ISO manually. While the camera chooses the optimal exposure in other modes, ManualMode requires the photographer to manually adjust and maintain it. Bulb photography is another feature that can be found in the M mode. In bulb photography, the photographer can control the duration of the camera's exposure by manually holding down the shutter button, allowing it to stay open for more than 30 seconds. To make use of this, set the shutter speed to BULB. The use of a tripod and remote is highly recommended for optimal utilization of this mode.

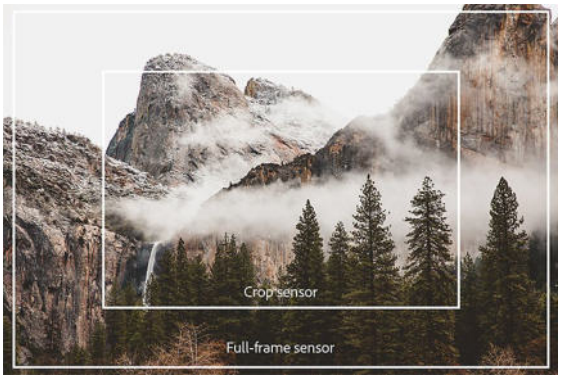
In addition to these modes, there are a limited number of scenes accessible on the dial. Depending on the camera model and manufacturer, these scenes can vary.

LCD of DSLR
Source: Nikon

	Designed to ensure natural-looking skin tones in portrait photography. The camera will automatically set the right shutter speed and aperture to capture the subject.
	Intended for photographing landscapes. In order to capture the landscape with a wide depth of field, the camera will use a small aperture.
	Intended for capturing images of children. The clothing and background details are depicted in a vibrant and realistic manner, while the skin tones look soft and natural.
	The camera will adjust the shutter speed to the highest possible setting based on the lighting conditions in order to capture fast movements.
	Beneficial for capturing subjects up close. Particularly suitable for capturing floral, insect, and micro photography.
	Appropriate for operating under dim lighting conditions.
 **No Flash**	In this mode, the flash will not fire.

4.3 Full frame camera vs Crop frame Camera

The size of the image sensor is what sets apart the full frame camera from the crop frame camera. The crop frame camera is equipped with Advanced Photo System type-C (APS-C) sensors, which are approximately 1.6 times smaller compared to a full frame image sensor. Full frame cameras outperform their counterparts in low light conditions due to their larger sensor size. They also offer a shallower depth of field, wider field of view, and superior image quality. However, it should be noted that these cameras come with a higher price tag, are larger in size, and produce larger image files than a crop frame camera. The Nikon D750 is an example of a full frame camera, while the Canon EOS 250D is an example of a crop frame camera.



Full frame sensor vs Crop sensor
Source: Adobe

Self Assessment Questions

- What mode is the most preferred for astrophotography and why?

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- Why is a tripod essential when taking long exposure photographs?

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Check Your Progress

- What makes full frame sensors the preferred choice for professional camerapersons?

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- In a DSLR, what angle is the reflex mirror positioned at?
    a. 45 degrees
    b. 55 degrees
    c. 35 degrees
    d. None of the above

- What is camera obscura? Discuss with a diagram.
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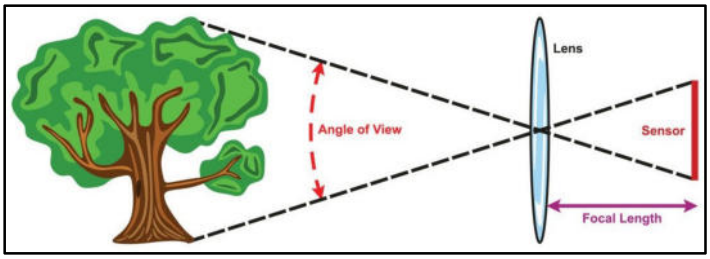
5. Camera Lens

The camera lens is a precisely shaped glass element, with a double-sided curve. Its primary function is to focus and project light onto a surface that can capture images, like a film or a digital sensor. The image quality improves proportionally with the lens quality. The focus and aperture feature are present in most camera lenses, giving photographers the ability to control focus and depth of field. There is a great deal of variation in camera lenses when it comes to their size, weight, focal length, and design. Different types of photography, like portrait, landscape, and macro, may require lenses that are specifically designed for each purpose. Before we explore the different types of lenses, it is important to understand the concept of focal length.

5.1 Focal Length

In the context of the camera lens, the measurement of the optical distance between the point of convergence of light with the lens and

the sensor of the camera is known as the “focal length”. The unit of measurement for this length is millimetres (mm). The focal length of a lens determines two important factors: the angle of view, which determines how much of the scene will be captured, and the magnification, which determines the size of individual elements in the captured image. As the focal length increases, the angle of view becomes narrower and the magnification increases. Conversely, as the focal length decreases, the angle of view widens and the magnification decreases. For instance, as you can see, when the focal length increases, the magnification increases while the angle of view gets narrowed.



Focal length and angle of view
Source: Petapixel

Different Focal length
Source: Nikon

5.2 Types of Lenses

Standard Lens

When lenses have a perspective that closely resembles that of human eyes, they are referred to as standard lenses. The lenses have a focal length range of 35mm to 70mm. By using these lenses, individuals are able to perceive perspectives, sizes, and distances in the same way as observed by the human eye.

Do not get confused with 35 mm photography sensor with 35mm focal length. 35 mm sensor is the most common sensor format. There size is 36mm × 24 mm.

Wide-Angle Lens:

These lenses give you a wider field of view and are generally shorter in focal length than a 35 mm lens. These lenses are ideal if you're interested in capturing expansive views of landscapes or architecture. For example, the 16-35 lens, 10-20mm lens.

Nikkor AF-S 500mm
Source: Nikon

Telephoto Lens

When it comes to capturing distant subjects, telephoto lenses are the ideal choice as they are specifically designed for this purpose. In this category, you can choose from a variety of lenses, with focal lengths ranging from 70mm to as high as 600mm. For example, 70-200 mm lens, 200-500mm lens.

Zoom Lens

Zoom lenses are specifically designed to provide photographers with a range of focal lengths to choose from, allowing for greater versatility in capturing images. The advantage of using a zoom lens is that it enables you to adjust the framing of a scene without the need to move from your current position, providing convenience and flexibility. For example, 55-250mm lens.

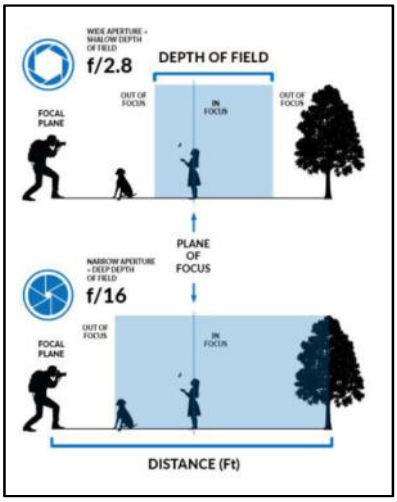
Prime Lens

The defining feature of prime lenses is their fixed focal length. In comparison to zoom lenses, prime lenses offer advantages such as being lightweight and compact, making them more convenient to carry and use. Additionally, they are known for their increased speed, offering wide apertures ranging from up to f/1.4.

Nikkor AF-S 50mm
Source: Nikon

5.3. Depth of field

The depth of field refers to the specific distance that remains in focus of the camera lens. When the depth of field is deeper, it allows for a wider portion of distance to be in focus, whereas a shallow depth of field means only a narrow portion of distance will be in focus. For instance, in landscape photography, the goal is to capture a broader area, while in portrait photography, the emphasis is on blurring the foreground and background to achieve the bokeh effect. Increasing the f-stop will cause a larger plane of focus, allowing for the capture of more background and foreground elements in the image. In order to achieve a shallow depth of field, it is important to keep your f-stop number low. The smaller the f-stop number, the shallower the plane of focus will become.



Depth of field
Source: ExpertPhotography

5.4 Optical zoom vs Digital Zoom

The process of optical zoom involves physically adjusting the focal length of the lens in order to modify the distance between the subject and the image sensor. The process of zooming in involves moving the lens away from the image sensor, which in turn magnifies the scene. However, digital zoom functions more as cropping and enlarging in the centre rather than true zooming. The act of cropping in digital zoom results in a decrease in output quality when compared to optical zoom. Smartphones and point and shoot cameras often come equipped with digital zoom.

Self Assessment Questions

- What is the difference between 35 mm photography sensor and 35mm focal length?

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- What are the different ways to produce a bokeh effect?

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Check Your Progress

- What is focal length?

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- What is the telephoto lens? Whatis the usage of this lens?
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- What is the shallow depth of field?
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6. **Exposure**

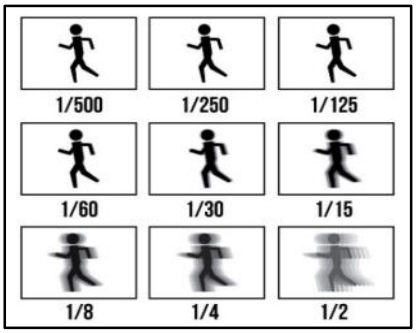
The term “exposure” refers to the amount of light that can reach your camera’s sensor. When an image or video is overexposed, you can observe bright white highlights or a washed-out appearance, whereas underexposure results in a darker look. Achieving the right balance of exposure is a difficult and crucial task that requires careful attention and consideration.For mastering this, it is essential to understand the exposure triangleconsisting of shutter speed, aperture, and ISO. Each of them has a distinct purpose and the capability to manage the degree of exposure.

6.1 Shutter Speed

Shutter speed means for how long the shutter is going to keep open for the light to hit the image sensor. When the shutter speed is increased, the exposure time becomes shorter, whereas a decrease in shutter speed lengthens the exposure time. In the figure above, the left dial on the camera displays a shutter speed of 1/125, indicating that the camera shutter will remain open for a duration of 1/125 of a second.To prevent blurry and shaky photos, it is recommended to

avoid setting the shutter speed lower than 1/50 when using a camera without a tripod.

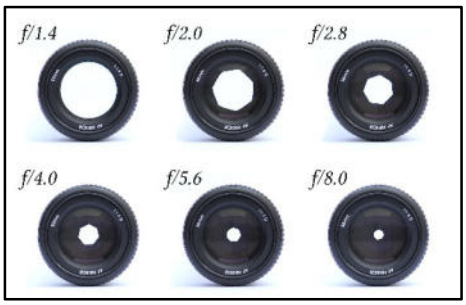
LCD of DSLR showing the settings
Source: Nikon



Subject in different shutter speed
Source: CreativeLive

6.2 Aperture

Aperture is the opening of the camera lens. The opening size of the lens is what determines how much light can enter and ultimately reach the image sensor. It is denoted as the f-stop number. The larger the aperture, the more light can enter, whereas the smaller the aperture, the less light is able to enter. For example, f/2 is bigger aperture than f/8. One might question why f/2 is considered larger than f/8, given that 8 is evidently greater than 2. This is due to the fact that aperture is represented as a fraction. The notation f/2 represents ½ of the focal length, whereas f/8 represents 1/8 of the focal length. In the figure, the middle dial shows the aperture.



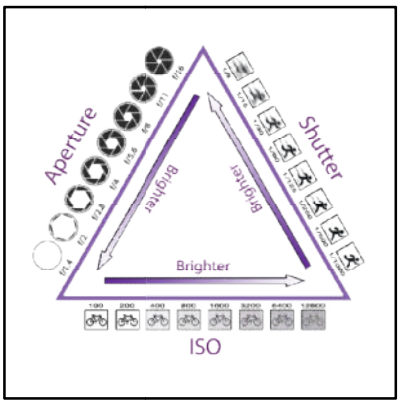
Different aperture sizes of the lens
Source: Wikimedia

6.3 ISO

ISO is the sensitivity of the image sensor of the camera. Higher the number, more sensitive your camera will be to the light. However, it is important to note that increasing the ISO settings can introduce unwanted “noise” into both photographs and videos. It is advisable to make an effort to maintain a low ISO setting and only resort to increasing ISO as a last option in order to balance the amount of exposure. In the figure, the right dial is displaying the ISO.

6.4 Triangular Relationship of Shutter speed- Aperture- ISO

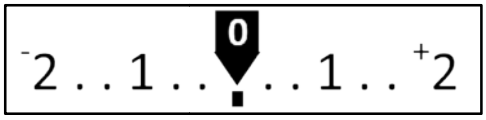
Shutter speed, aperture, and ISO collectively determine the amount of light that hits the camera’s image sensor. When adjusting one variable, it is crucial to examine the remaining two variables to prevent the output from becoming overly exposed or underexposed. For example, you are in looking to capture a landscape in a dark cloudy weather while hand handling your camera. Since you are trying to capture a landscape, you want to increase the depth of field in the photo. So, you first adjust the aperture to f/16.To counteract the decrease in light, you slow down your shutter speed to 1/50. Suppose that despite slowing the shutter speed to 1/50, your photo remains underexposed. Only after that should you consider increasing the ISO to achieve balance exposure.



Triangular Relationship of Shutter speed- Aperture- ISO
Source: Garret Hughes

6.5 Exposure meter

Metering is the method by which your camera assesses the lighting in a scene to determine the appropriate shutter speed, aperture, or ISO setting. Back in the past, cameras did not have a built-in light "meter" like they do now, so photographers had to rely on handheld light meters to determine the best exposure. When the meter's indicator is towards the positive side, it means the output will be overexposed. On the other hand, if it leans towards the negative side, it indicates that the resulting image will be underexposed. Maintaining the indicator at zero is crucial for achieving a well-balanced exposure. This can be accomplished by making adjustments to the shutter speed, aperture, and ISO.



Exposure meter
Source: SLR Photography Guide

Self Assessment Questions

- Explain "Higher the f-stop number, lesser the light."
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- Explain “Slower the shutter speed, brighter the photo.”
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Check Your Progress

- Why is it important to watch the exposure meter?
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- Discuss the triangular relationship of shutter speed-aperture-ISO.
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- From below, which f-stop number has the largest lens opening?
  a. f/5.6
  b. f/16
  c. f/8
  d. f/4

7. White Balance

White balance is the process of giving the camera the information about what is white in that given lighting condition. The white balance is a vital setting as it allows the camera to accurately capture the range of colours present in the environment. The camera itself offers preset options in DSLRs. If you notice, the white balance is provided with Kelvin (K) measurement. For example, the standard temperature for outdoor natural light is 5200 degrees Kelvin.

To adjust the white balance manually, start by capturing an image of a white object (such as paper or cloth) without any other colours present. Now, input that image into your camera settings for white balance so that your camera can accurately detect the colours in that particular environment.

White Balance Menu
Source: Canon

8. Camera Accessories

Tripod

With its unique three-legged design, the tripod is an essential accessory for photographers for offering stability, steadiness, and elevation to their cameras. One of the advantages of using a tripod is that it assists in capturing long exposures, as well as allowing for multiple photographs to be taken from the same position. Additionally, it should be noted that the legs of the tripod have the capability to extend and collapse, which provides the camera person with the flexibility of capturing shots from various height positions based on their specific needs.With the head of the tripod, photographers have the ability to pan, tilt, and rotate their cameras.

Tripod
Source: Wikimedia

Filters

Filters are attachments made of glass that are designed for lenses. These attachments serve multiple functions, including reducing glare, minimizing reflections, reducing excessive light, and enhancing colour saturation. There are various types of filters available, including UV filters, Polarizing filters, Neutral Density filters, Colour Correcting filters, and Macro filters, among others. Below, you will find a brief overview of these filters.

UV filters	Photographers rely on the use of UV filters as a preventive measure to safeguard the front of their lenses from moisture, dirt, and scratches.
Polarizing filters	Polarizing filters eliminate glare and reflections on glass or water surfaces and saturate the colours, thereby adding depth to it. These filters give the best result in landscape photography.
Neutral Density filters	These sheets of dark-coloured glass known as ND filters are used to decrease the light entering the lens and hitting the sensor, without impacting the colour of the image. With the ability to reduce the intensity of incoming light, this filter enables you to capture images with slower shutter speeds while avoiding overexposure.
Colour Correcting filters	The utilization of colour compensating filters can help correct or enhance the colour of your scene. Warming and cooling filters are especially effective in correcting indoor lighting and altering the ambiance of your scene to achieve a gloom or brighter effect.

Flash

The flash is a crucial accessory that emits light for a short duration, making it an essential tool in photography. Flash is used to compensate for the lack of brightness in an environment. To prevent blur and camera shake caused by a slow shutter speed in low light conditions, it is advisable to utilize the flash. One way to improve your camera's lighting capabilities is by attaching an external flash unit onto the hot shoe, which is located on the top of the camera.

Self Assessment Questions

- In what ways do filmmakers employ white balance to evoke a specific mood?
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- Explain "Slower the shutter speed, brighter the photo."
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Check Your Progress

- What is hot shoe?
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- How Colour Correcting filters are important in conveying a specific mood?

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- To manually adjust the white balance, take a piece of paper that is _____ in colour.
  a. White
  b. Red
  c. Green
  d. Magenta

9. Frame Composition

A camera person needs to decide how to arrange visual elements within the frame. The organization of visual elements extends to more than just the subject. You can employ several techniques for visual composition. A few of these are discussed below:

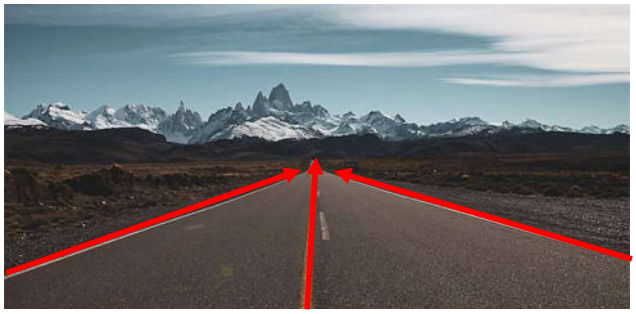
9.1 Rule of Thirds

Painter John Thomas Smith introduced the rule of thirds in his book Remarks on Rural Scenery, published in 1797. The process involves dividing the frame into a three-by-three grid by using two horizontal and two vertical grid lines that are equally spaced apart. The rule of thirds recommends positioning your subject in either the left or right third of the image, while leaving the other two-thirds more open to create a visually appealing composition. In the present time, it has become a standard feature for both cameras and smartphones to offer the option of activating grid lines. These grid lines serve as a useful aid in capturing visually appealing photos or videos.

Rule of Thirds
Source: mediacommons.psu.edu/

9.2 Leading Lines

Within the realm of photography, leading lines serve as a powerful compositional technique, directing the viewer's attention towards the subject or central element of the image. These lines might be either human-made or naturally occurring.



Leading Lines in a photograph
Source: Adobe

9.3 Head Room

The term "head room" is used to describe the difference in height between the subject's head and the top of the frame. When we refer to the "head" of a subject, it doesn't always mean a person's head, but rather the upper part of any object within your field of view. Too much headroom or too less headroom makes the composition look unnatural.

Head Room
Source: Adobe

9.4 Lead Room

Lead Room is the term used to describe the space between the subject's face and the left or right edge of the frame, depending on the direction the subject is looking. Again here, the subject can be a human or something else, like a racing car. If there is little or no space in front of subject, it would appear unnatural or lack of breathing space for the subject.

Lead Room
Source: mediacommons.psu.edu/

10. Basic Camera Shots

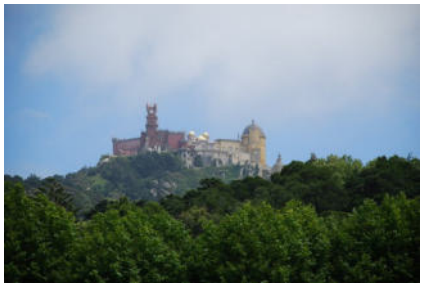
Bird Eye View

This camera shot is captured from a directly overhead position or at a sharp angle to provide an elevated view or bird's view. These days, it is common to come across numerous shots taken from elevated positions and aerial viewpoints, all falling into this particular shot type.

Source: Thienzieyung

Extreme Long Shot

Establishing shots can be effectively achieved through the use of extreme long shots. The primary distinction between an extreme long shot and a long shot is that in a long shot, the subject is still visible within the frame, whereas in an extremely long shot, this is not necessary. This shot is also known as extreme wide shot.



Source: Cláudia Almeida

Long Shot

Long shots can also be employed to establish a context. In contrast to an extreme long shot, the subject is clearly visible within the frame of this shot.This shot would capture the subject in its entirety, from head to toe, and even include some additional details from the surrounding environment. The utilization of the shot in the scene is crucial in providing a deeper understanding of the subject's context. This shot is also known as wide shot.

Source: bhphotovideo.com

Full Shot

Full shot covers the subject's head to toe. The purpose of this shot is to highlight the subject's appearance, movement, mannerisms, traits, and actions, as it sets the stage for exploring their reaction or emotions in subsequent shots.

Source: Film "Hugo" (2011)

Medium Shot

In photography or filmmaking, medium shots are often used to capture the subject from the waist up, giving viewers a better sense of the subject's presence in the frame. This particular shot falls somewhere between a full shot and a close-up shot. This particular shot is employed to showcase not only the subject but also the surrounding environment, incorporating various elements into the composition. The main emphasis in this shot is placed on the body language and the facial expression.

Source: Adobe Stock

Close Up

The use of close ups in filmmaking allows for a stronger emphasis on emotions and enables the audience to better understand and feel the intensity of the situation being depicted. These shots are commonly utilized to visually depict specific actions and emotions, such as happiness, distraught, deep gaze, ignition of a car, picking up an item of interest.

Source: TV Series “Breaking Bad”

Extreme Close Up

In order to establish an atmosphere of high intensity and evoke specific emotions, filmmakers often employ extreme close ups. For example, to illustrate the tension of the situation to the audience, the director may ask for framing specific details such as the actor’s eyes, mouth, or the muzzle of a gun.

Source: B&H Photo

Over the Shoulder

The camera angle shows the perspective from behind a character's head and shoulder, with the focus on another character. The composition of this shot gives the impression that the characters are engaged in a conversation. To achieve a balanced composition, it is recommended that the character facing the camera occupies at least one-third of the frame. It is important for the character's eye line to match the camera's level. The visual experience of the audience may be disrupted if the camera angle is too high or too low, considering that they are viewing a conversation. The choice of camera angle plays a significant role in influencing the perception of a subject - a slightly higher angle can instill intimidation, whereas a lower angle can exude a commanding presence.

Source: Film "Harry Potter and the Deathly Hallows-Part 2

11. Angles and Camera Movements

Static Shot	No camera movements at all.
Zoom in	Zooming in a subject
Zoom out	Zooming out of the subject
Pan	The camera moves horizontally

Dolly	Physically moving the camera forward or backwards.
Truck	Similar to dolly shot, except the camera moves left to right
Pedestal	Moving the camera upward or downward on a fixed vertical axis in relation to the subject.
Tilt	The camera moves vertically upward or downward.

Self Assessment Questions

- What is the rationale behind filmmakers occasionally breaking the rule of thirds?
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- What is the rationale behind filmmakers occasionally breaking the rule lead room?
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Check Your Progress

- What is hot shoe?
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- How Colour Correcting filters are important in conveying a specific mood?

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- Who introduced Rule of Thirds?
    a. John Thomas Smith
    b. Johan Cruyff
    c. Jonathon Smith
    d. Jurgen Klopp

12. Summing Up

Understanding the camera and its relevant aspects is crucial when it comes to visually narrating a story.Our discussions in this unit primarily revolve around cameras and the relevant aspects associated with them. As you progressed through this unit, you have been introduced to several crucial concepts, including the triangular relationship of shutter speed-aperture-ISO, the significance of exposure in capturing the perfect shot, the impact of depth of field on the composition of an image, the importance of white balance for achieving accurate colours, and the artistry involved in carefully framing a photograph. Moreover, this unit helped you in recognising a range of camera accessories that can optimise the end results. With the knowledge you have acquired, you can now practise and experiment with various settings in order to gain a deeper understanding of the inherent relationship among all elements.

Model Questions

- What is the Rule of Thirds and why is it important in photography?
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- What are the different kinds of camera lenses and their respective uses?

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- What are different camera shots and their respective uses?

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Peterson, B. (2010). *Understanding Exposure* (3rd ed.). Amphoto Books.

Pritchard, M. (2014). *A history of photography in 50 cameras*. Bloomsbury.

Unit: 4

Magic of Light: Outdoor and Indoor Production

Unit Structure:

4.1 Introduction

In the world of photography and videography, lighting is a fundamental element that can make or break a shot. Capturing anything would be impossible without the presence of light. Prior to converting them into digital recordings, the camera's image sensors capture the light signals. The concept of lighting involves carefully planning and using light to achieve the desired visual effects in photography or filming. Altering the lighting on a subject can yield various interpretations and impacts.

4.2 Objectives

This unit is an attempt to give you an understanding of lighting. After going through the unit you will be able to-

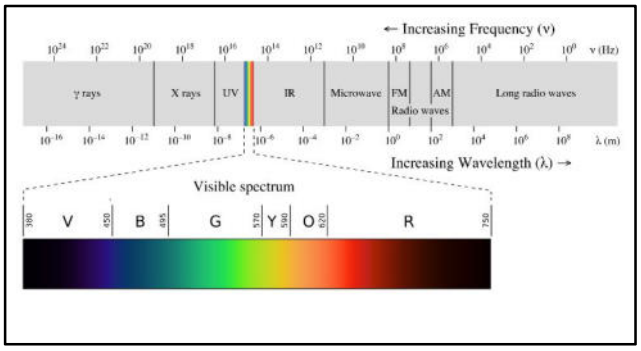
- Discuss the significance of lighting in photography and cinematography
- Explain the significance of light intensity and colour temperature
- Discuss different lighting techniques
- Discuss various lighting accessories

4.3 Aesthetic importance of Lighting

Lighting creates an impact in the subject, be it photography or videography. By implementing strategic lighting techniques, individuals have the ability to not only set a specific mood and atmosphere but also to add depth and dimension to a character, enhance the overall visual composition, and effectively add desired symbolism within an image or video. Carefully designed lighting improves the overall visual attractiveness of a performance, captivating the audience and immersing them further into the narrative. Captivating lighting can evoke emotions, increase suspense, and highlight important moments, creating a more immersive viewing experience.

4.4 Visible Spectrum

The human eye is capable of perceiving only a specific range of electromagnetic waves, known as the visible spectrum.Although all electromagnetic radiation is technically classified as light, our vision is only capable of perceiving a small segment of this radiation, which we identify as visible light.In general, humans can see light waves between 380 and 700 nanometers in length.Visible-light waves that reach our eyes mainly come from the Sun, which is the dominant source.The wavelength of each colour varies.For instance, the colour red is characterized by its long wavelength, while violet is known for having the shortest wavelength.White light is produced when all the waves are observed together.



Source: Wikimedia.org

2. Quality of Light

Several factors contribute to determining the quality of light, including its hardness, softness, intensity, colour temperature, directionality, and consistency. Understanding light quality and skilfully controlling it are essential abilities in the fields of photography and cinematography, as they directly impact the mood, atmosphere, and overall visual attractiveness of an image or scene.

4.3 Hard Light and Soft Light

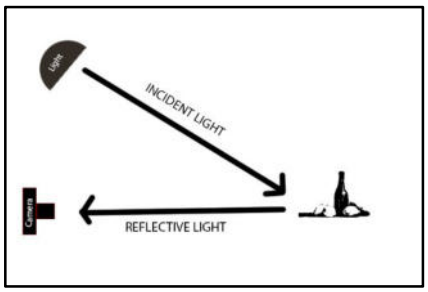
Hard light: Directing the light source towards the subject produces a strong contrast and a powerful visual impact. The use of lighting in this composition results in the formation of dark shadows and sharp edges of the subject. Hard light can be achieved through different sources, such as sunlight, spotlights, and the use of flash without diffusion. The use of hard light has the potential to create a striking and dramatic effect, while also eliciting specific moods.

Soft light: By diffusing the light, we can achieve a soft and gentle illumination that evenly spreads out the colour tones, thereby minimizing the occurrence of sharp shadows and resulting in a low contrast appearance. Soft light can be attained by utilizing different sources, including an overcast sky, as well as modifiers like soft boxes, umbrellas, diffusers. Soft lighting can create a gentle, calm, and peaceful ambiance.

2.2. Light Intensity

The term light intensity, also known as luminous intensity, describes the quantity of visible light that is emitted or reflected from a surface in a given direction. Lighting plays a significant role in determining the brightness and visibility of a scene. The

measurement of light intensity is usually expressed in units called candelas (cd) per square meter, or nits when referring to displays. The intensity of light is influenced primarily by three main factors, namely, the distance between the light source and the subject, the characteristics of the light source itself, and the specific arrangement of the lighting setup. Alongside other elements that affect a scene's dynamic range, such as contrast and exposure, the intensity of light is a significant contributing factor. Additionally, the adjustment of light source intensity plays a crucial role in determining the colour balance and mood of a scene.Light can be divided into two categories: incident light and reflected light. Incident light is the light that falls directly on the subject. The brightness of the light source determines how intense the incident light is.The source of it can either be natural or artificial. Some examples of incident light sources are the sun, which provides natural light, as well as bulbs and reflectors, which produce artificial light.On the flip side, reflected light is the light that is reflected off the subject and subsequently captured by the camera lens. One can modify the light intensity in various ways, including altering the distance between the light source and the subject, substituting the light lamp with a different intensity, or merely dimming the light. If you choose to operate your camera in manual mode, you can utilize the exposure meter, which measures reflective light, in order to make precise adjustments to the settings. Regardless of the number of light sources used or the amount of light absorbed by any subject, an incident light meter remains unaffected. The brightness of the light source and the nature of the objects' surface are the two factors that determine the intensity of reflected light. As an example, let's consider a scenario where a 100W lamp is used as a light source. In one case, if the light is directed directly towards the subject, the intensity will be higher compared to another case where the same light lamp's light is directed towards the subject with the assistance of a reflector. Again, if you are doing product photography and the item being photographed is a white shampoo bottle, you can expect the intensity of the image to be higher than if it were a black shampoo bottle.

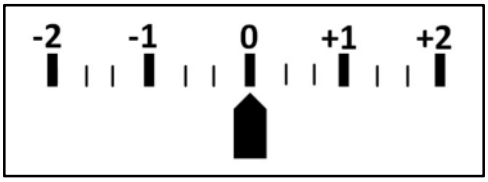


Incident light and Reflect Light
Source: Digital Photography School

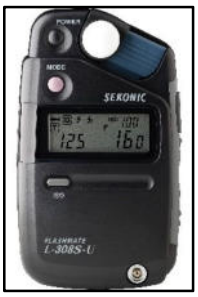
2.2.1. Measurement of light Intensity

In modern cameras, the exposure meter is a common built-in feature. The exposure meters are usually reliable in providing accurate measurements of light, but there are occasions when they can be perplexed by irregularities in light absorption within a single frame. For example, in your product photography of shampoo bottles, you are shooting both white and black shampoo bottles together. In the event that you find yourself in that particular situation, it is crucial to take note of the fact that the exposure meter may not be able to provide accurate measurements due to the sensor's potential confusion caused by irregularities in reflective light. There is a possibility that this confusion may cause the white shampoo bottle to be overexposed or the black shampoo bottle to be underexposed. In such instances, it is essential for you to manually determine the appropriate exposure for that specific setting.

By placing the meter in close proximity to the subject, incident light meters are able to directly measure the quantity of light that is illuminating the subject. The subject's color or reflectance does not impact the readings of the incident light meter.



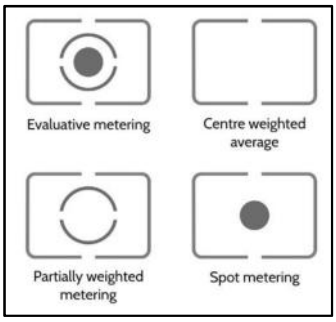
Exposure meter
Source: Hemington



Incident light meter
Source: Sekonic

2.2.2. Light Metering

Light metering plays a vital role in achieving the right settings for a camera's shutter speed, aperture, and ISO for the accurate measurement of light. When it comes to modern day cameras, users have access to a variety of common metering modes such as Matrix (evaluative) Metering, Centre Weighted Metering, Partial Metering, and Spot Metering.



Light meters in camera
Source: japanistry.com

Matrix Metering:

When operating in this mode, the camera utilizes a technique where it divides the frame into several small squares. It then takes readings of the light within each square and uses these readings as a reference point. By averaging out all the readings, the camera is able to determine the final light reading for the entire frame. When the light reading is consistent and evenly distributed across the entire scene, this mode proves to be especially effective. This mode is typically versatile enough to serve as the default option for a variety of conditions in most cases.

Centre Weighted Metering:

It is recommended to use this mode for capturing the scene when the subject is positioned in the centre, as the camera will calculate the optimal settings by taking the exposure reading from the centre. The camera, while in this mode, gives greater importance to the light reading from the centre compared to the reading from the side. This metering mode is highly suitable for portrait photography.

Spot Metering

This mode takes light reading from precisely the selected focus point and ignores the rest of the scene. In this mode the camera takes the reference from 2.5% of the scene. Let's say, for instance, you want to capture stunning photographs of birds and ensure that the area with birds is properly exposed; in this case, if you choose spot metering and select the focus point, your camera will automatically adjust the settings to give you the best results.

Partially weighted metering

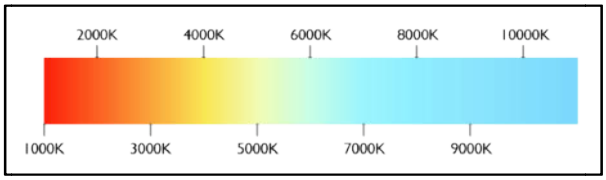
In terms of area coverage, partially weighted metering covers a larger portion compared to spot metering, with a percentage of 6.5% as opposed to 2.5%. By choosing this metering mode, you can achieve better results when capturing subjects with brighter lights in the background. Unlike spot metering, this mode considers the average exposure of the nearest focus points, resulting in improved exposure across the entire frame.

2.3. Colour Temperature and its Aesthetic Importance

The knowledge of colour temperature and the skill to adjust it accordingly are necessary for photography and videography. By adjusting the temperature of colours, photographers and filmmakers can effectively communicate and enhance the intended emotions, themes, and sensations. It is important to remember that there can be a difference between what you perceive visually and what your camera records.Your camera may capture settings that look white to you with a slight yellow or blue tint.

Colour temperature is a measure of how warm (yellowish) or cool (Blueish) visible light appears. It is measured in the unit of Kelvin (K). Warmer weather is often associated with lower colour temperatures, typically ranging from 2000K to 4000K. Conversely, cooler weather is often associated with higher colour temperatures, usually ranging from 5000K to 10,000K. The colour of light changes from yellow to white, and eventually to blue as you go up the Kelvin scale.Pure white has a colour temperature of 4500K,

whereas daylight can range from 5500K to 6500K. The colour temperature of Tungsten light falls in the range of 1900K to 3200K, while a cloudy day typically has a temperature between 6000K and 6500K. To determine the colour temperature, you can utilize a Colour Temperature Meter to measure and identify the appropriate white balance settings.



Colour Temperature chart
Source: BenQ

Colour Temperature Meter
Source: Sekonic

2.4. Direction of Light

The direction of light refers to the angle, height, and direction by which the light is cast upon the subject. The mood and appearance of the subject can be influenced by the direction in which light is cast. Below different directions of light are discussed:

Front lighting

The front lighting is placed in front of the subject, aligning with the camera. Since, light is not from an angle, it creates limited shadows and spread across. This type of lighting produces a gentle, spread-out illumination. By minimizing the difference between light and shadow, it tends to give the subject a flatter look and reduce the perception of depth.

Side lighting

Side lighting refers to the technique of positioning the main light source on the side of the subject, resulting in the creation of

illumination on one side and the formation of shadows on the other side. The arrangement of lights in this setup produces contrasting areas of brightness and darkness, leading to a striking and visually engaging picture. A form of Side Lighting is Split Lighting. In this, the light is placed at a 90-degree angle from the subject, that causes one side of the subject to be illuminated and the other side to be cast in shadow. The split lighting technique is used to create a splitting effect on the subject.The use of side lighting produces bold and distinct shadows on one side of the subject, enhancing the image with depth, texture, and dimension.

Backlighting

The light source is placed behind the subject in this lighting setup, with the subject positioned between the camera and the light source. Silhouettes are one of the most common effects that are created by backlighting. Rim Light is another type of backlighting that produces a luminous outline or highlight around the subject when the light hits them.

2.5. Light Ratio

The light ratio is determined by comparing the intensity of the key light (main light source) and the fill light (secondary light source). To indicate the ratio of light intensity between these two sources, a numerical ratio like 1:1 or 4:1 is used. Let's take an example: if the ratio is 1:1, it indicates that the key light and fill light have equal intensity. However, if the ratio is 4:1, it means that the key light is four times stronger than the fill light. A higher ratio implies a stronger contrast between light and shadow, as it signifies a greater difference in intensity between the key light and fill light.

Self Assessment Questions

- How filmmakers use Colour temperature to convey specific contexts in cinema? Discuss with examples from Indian cinema.

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- How have filmmakers used split lighting in world cinema?
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Check Your Progress

- What is Light metering?
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- The unit of Colour temperature is
  a. Celsius
  b. Fahrenheit
  c. Kelvin
  d. None of the above
- What is Split Lighting?
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3. Types of Light Sources

When it comes to the field of photography and cinematography, there is a vast selection of light sources available for use, all of

which possess unique qualities and are suitable for different purposes. The following discussion will delve into the various types of light sources that are commonly used.

3.1. Natural Light:

The source of the natural light is the Sun. Understanding the angle of the sun, as well as the exact times of sunrise and sunset, is crucial for photographers and videographers who wish to utilize natural light. The intensity of light and the presence of hard shadows are more noticeable on a sunny day during the summer, while on an overcast day, the shadows appear softer and less defined. The period known as the Golden hour, which occurs in the early morning after the sunrise and in the late afternoon before the sunset, is distinguished by its enchanting spectacle of vivid red and orange light that illuminates the horizon. You can utilize this light to capture stunning photographs of landscapes, portraits, architecture, and silhouettes. Just before sunrise and immediately after sunset, there is a period known as the blue hour. At this moment, the sun scatters sunlight in the Earth's atmosphere, creating a serene and cool ambience with gentle blue hues that cover the landscape. This light can be particularly useful for capturing breathtaking landscape photography, especially using long exposure.

3.2. Artificial Light

The term artificial light encompasses any form of illumination generated by man-made devices, as opposed to natural sources like the sun or fire. Listed below are a few frequently used types of artificial light sources.

Spotlight

Spotlights release a high-intensity beam of light that is narrow, focused, and has a well-defined edge, not exceeding a 45-degree angle. With its ability to control the direction and angle of the light beam, it is commonly employed to illuminate specific subjects or areas in a precise manner. One common element in stage lighting is the use of spotlights, which are strategically placed to capture the attention of the audience and highlight performers or specific actions.

Spot light
Source: bhphotovideo

Flood Light

The purpose of flood lights is to produce a beam of light that spreads uniformly across a wide area with consistent light intensity, creating an evenly illuminated space. The careful placement of these lights ensures consistent illumination across the entire set. This eliminates any harsh shadows and guarantees that the cameras capturing the scene will have consistent exposure.

Flood light
Source: bhphotovideo

Tungsten Light

Tungsten lighting, which is also referred to as incandescent lighting, is a widely used form of artificial light that operates by heating a filament made of tungsten to produce light.With its ability to generate high-intensity illumination, this powerful light source emits a yellowish light at a colour temperature of 3200K.

Tungsten light
Source: bhphotovideo

HMI Light

Professional photography studios, film and television productions, outdoor shoots, and stage lighting applications extensively utilize HMI lights, also referred to as hydrargyrum medium-arc iodide lights. HMI lights generate a daylight-balanced light that closely mimics the colour temperature of natural sunlight, typically falling between 5600K and 6000K.

HMI light
Source: bhphotovideo

Fluorescent Light

Fluorescent lights are extensively utilized in photography studios and TV studios. The favourable aspects of these lights include their ability to emit a gentle, dispersed light, their high efficiency, long lifespan, and their effectiveness in illuminating various settings. Fluorescent lights commonly come in different colour temperatures such as warm white (approximately 2700K to 3500K), cool white (approximately 3500K to 4100K), and daylight (approximately 5000K to 6500K).

Fluorescent light
Source: bhphotovideo

LED Light

The acronym LED stands for Light Emitting Diode, refers to a type of lighting that is known for its energy efficiency, wide range of colour temperatures and ability to generate minimal heat. You can position these lights in closer proximity to the subject. Several LED lights come with the option of dimming, giving photographers the opportunity to adjust the brightness of the light output to meet their specific lighting preferences.

LED light
Source: bhphotovideo

Fresnel Light

The versatility of Fresnel lights is evident in their ability to function as key lights and fill lights. Photographers can utilize Fresnel lights to achieve controlled and precise lighting. This light is named after its inventor, Augustin-Jean Fresnel. Fresnel light consists of lens that offers the ability to concentrate or disperse light, allowing for versatile control over the illumination based on requirement.

Fresnel light
Source: bhphotovideo

Self Assessment Questions

- How is spotlight used in cinematography? Discuss with some examples?

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- Why the professionals prefer LED lights?

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Check Your Progress

- What is the difference between spotlight and flood light?

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- Fresnel light is named after
    a. Augustus John Fresnel
    b. Augustin-Jean Fresnel
    c. Agor-Johan Fresnel

- What is Golden hour?
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4. Lighting Techniques

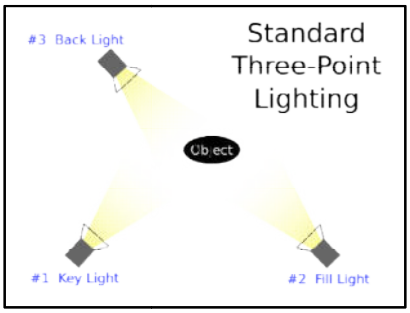
Familiarizing oneself with lighting techniques is imperative for several reasons: it ensures precise exposure, facilitates desired illumination levels, establishes the desired atmosphere, provides control over shadow and highlight intensity, and enables the establishment of necessary colour temperature.Some lighting techniques are discussed below:

4.1. Three-point Lighting

The three-point lighting technique has long been regarded as a prominent method extensively employed in both photography and videography. The technique entails strategically positioning three light sources around the subject to effectively control highlights, shadows, and overall lighting. Key light, fill light, and back light are the three main components that make up this lighting technique.

Key Light:

The key light serves as the primary source of light, illuminating the subject. Among all the lights, it is the one that shines the brightest. In general, it is placed at a 45-degree angle to the camera, off-centre from both the camera and the subject's front. This leads to the creation of shadows on the subject's face, which adds depth and three-dimensionality to their features.



Three-point lighting
Source: Wikimedia

Fill light:

The fill light is used to minimize the shadow effects caused by the key light. The photographers and cinematographers determine the amount of fill light to use based on the desired mood. Normally, the fill light is positioned on the opposite side of the key light and is set at a ratio of 1:2 in terms of light intensity. The fill light doesn't have to be a traditional light source; it can be any object that fills in the shadows produced by the key light, such as a reflector.For instance, when outdoors in natural light, especially when the sun is the main source of light, using a reflector or bounce card at the correct angle can help eliminate shadows on the subject.

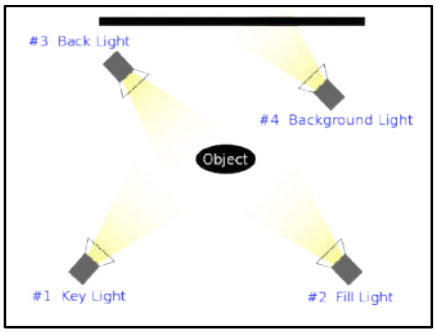
Backlight:

The placement of the backlight behind the subject ensures that there is a noticeable difference between the subject and the background. By providing backlighting, it enhances the overall lighting, adds depth to the frame, and prevents a flat appearance of the subject.

4.2. Four-point Lighting

The four-point lighting technique expands on the three-point lighting setup by introducing an extra light source called the background light. Positioned behind the subject, this light is specifically designed to illuminate the background. The function of background light is completely different from that of a backlight, so

it is important not to mix them up. The purpose of the backlight is to illuminate the rear side of the subject, while the background light is used to emphasize the background.



Four-point lighting
Source: Wikimedia

4.3 Cameo Lighting

Cameo lighting sets the subject against a dark background and allows the light to fall strictly on the subject, rather than what is in the background. While traditional portrait lighting setups strive for a uniform illumination of the subject's face, cameo lighting embraces the use of shadows and darkness to cultivate an enigmatic and captivating scene. The lighting technique, frequently utilized in the Golden Age of Hollywood and the film noir era, served to intensify the narrative and evoke powerful emotional reactions in audiences.

Cameo lighting
Source: Film “Citizen Kane” (1941)

Self Assessment Questions

- How can a reflector serve as a fill light?

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- During the Golden Age of Hollywood, how was Cameo Lighting utilized? Explain with examples.

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Check Your Progress

- What is the difference between backlight and background light?

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- Howthree-point lighting technique can be used for portrait photography? Explain with a diagram.

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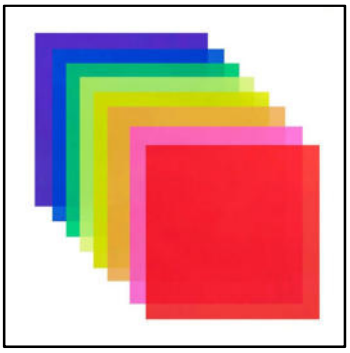
5. Lighting Accessories

Gels

Gels refer to coloured transparent sheets or filters that are placed in front of light sources to modify their colour temperature, create special lighting effects, or correct colour casts. Gels are available in a wide range of colors, densities, and sizes. In photography or television production, there are typically four types of gels that are commonly employed - Neutral Density (ND) gels, diffusion gels, colour correction gels, and colour effect gels. The primary function of ND gels is to reduce the intensity of light entering the camera lens. By controlling the exposure, you can effectively prevent overexposure, especially when capturing images in daylight or other situations with high contrast. Diffusion gel is essentially a sheet that can either be translucent or semi-transparent, and its main function is to soften and scatter light. This enhances the subject's appearance, giving it a softer and more flattering look. To align the colour temperature of light sources with the surrounding lighting or eliminate any unwanted colour tinges, colour correction gels like CTB (Colour Temperature Blue) and CTO (Colour Temperature Orange) gels are used. CTB gels are employed to transform warm-coloured light sources like tungsten or incandescent into cooler or daylight colour temperatures. CTO gels are used to adjust the colour temperature of cool or daylight light sources, giving them a warmer, tungsten-like appearance. To add artistic or thematic colour effects to light sources, colour effect gels are utilized. There is a great variety of colours available for these gels.



Cameo lighting
Source: Film “Citizen Kane” (1941)

Light Stand

The main purpose of light stands is to provide a stable base for lighting fixtures and accessories with its sturdy legs. The centre column or riser designed to support their weight for, ensuring that they do not tip over. By offering stable support, a light stand plays a crucial role in the success of any photography or filmmaking project, as it ensures that the lighting equipment remains securely positioned throughout the shoot.

Light Stand
Source: bhphotovideo

Reflectors

Utilizing reflectors can lead to the increase of brightness in underexposed or inadequately lit regions, the reduction of harsh shadows, the decrease in contrast, and the establishment of a more soft and flattering lighting effect through the reflection of light from a primary light source, such as the sun or artificial lighting. In order to reflect the light and achieve desired lighting patterns and effects, it is necessary to strategically position the reflectors in relation to both the subject and the light source.

Reflector
Source: bhphotovideo

Softbox

The primary purpose of a softbox is to modify the lighting by diffusing and softening the light emitted from the internal source. To enhance the diffusion and softening of the light, a diffusion panel made of translucent fabric or material is affixed to the front of the softbox, ensuring that the light reaches the subject in a softened and diffused manner. Softboxes create a gentle and even lighting that softly wraps around the subject, enhancing their features and minimizing harsh shadows. With their lightweight construction, portability, and quick setup, softboxes are the perfect choice for photographers who often do on-location shoots or outdoor photography sessions.

Softbox
Source: bhphotovideo

Self Assessment Questions

- What is the purpose of using Neutral Density (ND) gels in outdoor shooting under bright sunlight?
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- In what contexts is it absolutely necessary to use CTB gels?
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Check Your Progress

- What is the use of softbox?

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- What is diffusion gels and what is the use of it?

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Summing Up

Photography and cinematography rely entirely on the presence of light; without it, they would cease to exist.Throughout this unit, our discussions primarily centered around the importance of developing a comprehensive understanding of lighting techniques for both photography and cinematography. During our learning session, we gained knowledge about the various qualities of light, as well as different lighting techniques and accessories. With the help of these tools, you will have the ability to seamlessly translate your imaginative concepts into visually stunning stories that captivate your audience.

Model Questions

- Discuss the importance of lighting in photography?
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- What impact does the direction of light have on the mood of a
  scene?……
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- What are the various forms of light metering and how are they used?
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References and Further Readings

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Hunter, F., Biver, S., & Fuqua, P. (2013). *Light Science and Magic* (4th ed.). Taylor & Francis.

Blain Brown. (2019). *Motion picture and video lighting for cinematographers, gaffers and lighting technicians* (3rd ed.). Routledge.

Unit : 5

Voice Training and Art of Presentation

Unit Structure:

5.1 Course Objectives

After going through this course, you shall be able to

(i) understand the basics of voice training

(ii) learn the art of presentation

(iii) identify the dos and don'ts of presentation

5.2 Introduction

The presenter or anchor is a person who coordinates the coverage of an event or presents a programme. He or she is the face of the channel, informing and entertaining viewers. The anchor publicly represents the team effort of the channel in collecting and preparing the news.

Art of presentation is far more complex than simply reading and looking good. Anchors must be journalists first and foremost. They must also be effective communicators, lending the channel character, personality and style. They have to multi-task, process lots of information. The anchor's role is crucial, for he or she can make or mar a TV channel.

An anchor has to work on all kinds of live or recorded programmes, including news and current affairs, sports, music & dance shows, chat shows, children's entertainment, game shows, special interest programmes like travel, history etc. for which they need skills. Here are some the skills you should possess as a presenter:

5.3 Skills required

- **Ease in front of camera:** The presenter needs to make viewers want to see and hear him or her again and again. Comfort before the camera is a skill that some have more than others, but others can with practice acquire it to a considerable extent.
- **Presence of mind:**For good presentation, anchor needs to think fast on his feet. While anchors will mostly read scripts --- off a teleprompter or copy on their desk --- information about a breaking news may be transmitted to them through the earpiece. The anchor needs to be able to listen to what's happening and then relay the information smoothly to viewers in a clear and concise manner. By profession, the anchor must be in a position to update any development.
- **Command over the spoken word:** Correct pronunciation, modulation, stressing and pausing while reading the news with proper expression and posture --- are all skills the professional anchor/presenter must possess. Only with regular practice will these skills remain and get better.

5.4. Voice Training

Voice is an important instrument in building our relationship with viewers/listeners. A good health makes an enthusiastic voice, full of expressive changes in moods and meanings. Tired or flat voice is an indicator of depression or subdued mood. Clear, confident articulation indicates firm grasp of subject. Hesitant voice indicates confusion of the anchor or presenter

Everybody can cultivate his or her voice, can make it appealing and pleasing to listeners. You should try to read the daily newspaper loudly as a part of voice culture. Voice becomes assertive with pitch range, volume, tempo, vitality or enthusiasm, tone, articulation and pronunciation. Breathing runs through the windpipe to meet the vocal cord where it vibrates and produces sound. Each letter/word has their own pattern of sound vibration or art of pronunciation. You must have to learn the proper pronunciation. Again sound vibrates through various organs of the body. Here the importance of PRANAYAM stands

5.5 Art of Presentation

A presenter should know that listeners today are aware of almost all major developments. They can also detect the ignorance or faults of a particular anchor. An anchor or presenter should understand that he or she needs years to mature because each day brings new words, new events, new expressions, new concepts, new breakthroughs and new conditions to understand.

An anchor or presenter should understand some opposite aspects i.e.

- When one expresses, the other becomes receptive or non-receptive
- When one speaks, the other sits in the chair of the listener

- When one gestures, the other views the gesture
- Thus, there are some other parameters; i.e.
  - Psychological is Physical
  - Pitch is Frequency
  - Loudness is Intensity
  - Quality is Quality of Speech

  Hence one is to be careful of strength or effects of jaw, tongue and lips

Dos of good presentation

- Proper posture
- Breathing exercise
- Learn to listen
- Use and practice of pitch
- Open the mouth to produce sound properly
- Appropriate tone
- Use appropriate pace and pause
- Learn dialects
- Understand the vocal system

Don’ts

- Using starters (hemming & hawing, dawdling with the guest’s name etc.)
- Taking too cold or too hot drinks, smoking, inhaling smoke & dust & chemical fumes
- Speaking loudly for long periods
- Speaking too much when suffering from cold or cough or when physically weak
- Imitating the voice, mannerisms and style of some established anchor/presenter

Avoid

Words that sound similar i.e.

knit	neat
sit	seat
deed	did
ease	is
mat	met
pat	pet

Some other points…

- Know your news thoroughly. An anchor is not just a good-looking talking head. He or she is a journalist first. Many respected news anchors have strong reporting credentials.
- Don't read, communicate. And do it with proper emotion and expression to match the story. Only then can you connect with the viewer.
- If you are only focused upon the words in front of you, it will sound like mere reading. But if you know the story, you can talk about it confidently even if your teleprompter malfunctions. Since things can go wrong during live newscasts, anchors need to develop ad lib skills.
- Television is a mass medium, but the anchor must speak as if to an individual. While presenting the news, the anchor can visualize someone who is dear and trusted. That will help him or her to be relaxed and confident.
- If you are tense or fearful, viewers will sense it immediately. As an anchor, you must not seem lost or confined. During a newscast, you must always appear to know how and where to go. With practice, you will learn to stay calm and collected.
- Good anchors adapt to any situation, they are always in

control. They never allow themselves to lose composure. Many things can go wrong during a newscast, but they keep going. Breaking news, unpredictable interviews, technical glitches force anchors to constantly adjust. Often though, the viewers don't even realize there was a mistake.

- Smile on greeting, engage viewers by maintaining eye contact through the camera lens. Remember, no viewer likes a glum, frowning face.
- Use body language to grab viewer's attention. Sit on the front edge of the chair to lean forward slightly, keep your shoulders straight but relaxed.
- When doing stand-up anchoring, maintain correct body posture. Remember that the camera frame will seem to cut off your arms at the elbows if you allow them to hang down limply. Rhythmically clasp and unclasp your hands after bringing them up to chest level. Hands can be used expressively to highlight a story, but don't overdo it!
- Tell your stories in an active voice, with energy and enthusiasm. The anchor's job is to get a passive viewer to pay attention. Use that active, persuasive voice to convince the viewer that your story is worth following.
- Read the copy several times before the camera rolls. Scan it thoroughly (by marking and underlining the copy at appropriate places). Read it aloud, ensure that every pronunciation is clear.
- Don't turn the papers of your hard copy carelessly while reading. The pages will rustle, distracting your viewers. Instead slide them slowly off the desk.
- While reading from the teleprompter, the to and fro eye movement may become pronounced. Centering the eyes on an imaginary line along the middle of the teleprompter and

using your peripheral vision to see words on either side can help.

- If the anchor does not practice reading regularly, he will 'eat' his own words. He will fail to utter certain consonants clearly while muffling out some other sounds. Word tails may be dropped.
- Beginners need to know how they appear and move before camera. Regular practice before a mirror can help. They must also be thoroughly practiced with openings, taking breaks, welcoming back, tossing to other anchors and reporters, chats and closings.
- Be aware of the cameras --- whether they are on or off. When the visuals of a story or a commercial or a show is running, the anchor can suddenly pop up on screen. So never ever do or say anything before the camera that you don't want the whole world to see or hear!
- The anchor must know what camera shot is coming up next. You can make natural transitions turning from the master camera to your solo camera if you know what is expected. Nothing looks worse than an anchor looking at or reading to the wrong camera. Also don't look away from the camera suddenly. Viewers will wonder where and what you are looking at.
- Look the part of the TV anchor. Dress professionally but not provocatively. Viewers expect anchors to exude confidence and class. But your get-up must not distract the viewer from the news. Stick to solid colors. Avoid complex patterns and stripes for they don't look good on camera. Use accessories carefully. Hairstyle and makeup should be simple, elegant.
- Be yourself. Develop your own persona and style of presentation as an anchor/presenter.

5.6 Working with a co-anchor

- Get to know your co-anchor. You don't have to be great friends, but a pleasant rapport on the air engages viewers. It makes anchor links and ‘cross talk’ seem very natural.
- Read your co-anchor's mind. When you work with a partner for a long time, you learn how they do things. You can predict how they will react in certain situations. This is crucial during breaking news or when there is a crisis during newscast. A look or a tone of voice can be a cue from one anchor to another.
- Take turns talking. Have a clear understanding of when each co-anchor should speak. For example, if one anchor reads the story leading into a two-shot, then the other anchor comments first. Arranging this beforehand prevents both from talking at the same time.
- Really talk to your co-anchor during ‘cross talk’ in two shots. When anchor chat is forced, it is painful to watch.
- Listen to your co-anchor. When your partner is reading, hear what he or she is saying. That way when you start the next para of the same story or your next story, your tone will be appropriate. Listening also allows you to chat intelligently between two shots.
- When you finish your story, look towards your co-anchor to ‘hand off’ control of the show. When it is your turn, start by looking at your partner, then turn smoothly towards the camera. This makes for natural transitions.
- You will need to know your scripts well. This is because you will have to start talking while looking at your co-anchor and before you turn to the teleprompter.
- Share with your co-anchor. Help each other when there are problems. It doesn't matter who reads more stories or who

gets the lead story more often. Forget petty rivalries. After all, you are a team! The prestige of the channel rides on you both.

- While breaking a news, evenly split up the available information. A selfish anchor will try to monopolise the important information and leave the partner hanging. If you do that, your co-anchor will hate you and get even at the first opportunity!
- Position yourself to complement your co-anchor's position. Adjust the height of your chairs so that your shoulders are at the same level. Sit with your shoulders turned slightly toward your co-anchor.

5.7 Nature of Work

Your main work is to engage with the unseen viewers. Your actual tasks would depend on the type of show you present, but they would typically include:

- Meeting with the production team to go through the run-order
- Being briefed by researchers, or preparing your own scripts, links and interview questions
- Rehearsing thoroughly
- Presenting, which may include reading from a teleprompter or autocue, interviewing guests and interacting with studio audiences
- Going through several 'takes' if necessary
- Reacting to instructions given to you through an earpiece or ‘talkback’ by the producer, director or floor manager
- Although you will usually follow a script in most bulletins or shows, your ability as an anchor will be really tested in live telecasts. While a news is breaking, you may have to ‘ad

lib' (react quickly to unplanned events) and speak impromptu

5.8 What to Wear

Follow the guidelines of your institution. But you can keep some things in mind. Wear comfortable clothes that you feel good in. Your audience should focus on you, not your outfit. Solid colors in pale shades work best. Black, white, saturated reds and bright colors look especially bad on camera. Avoid tweed, small checks, stripes and other small patterns, unless they are very subtle. Avoid clothing made from glittery fabric or with attached jewels. Also avoid large logos, unless the logo is yours and part of your presentation. The small lapel-style microphones we use do not attach well to pullover shirts or sweaters. Jackets with lapels, shirts with collars, button-down blouses and cardigan sweaters work best. A microphone can be easily attached to a tie. Solid colour ties work best, though muted tones and subtle patterns work, too. Scarves can brush against the microphone and cause unwanted noise. Keep jewelry to a minimum. Especially avoid big, bright pieces. Large, heavy necklaces may hit the microphone, and some bracelets (including charm bracelets) can make unwanted noise by hitting a table or chair arm. Glasses are fine (especially if you need them). Some presenters will need to stand behind a podium, counter or desk, so comfortable shoes are recommended.

5.9 Hair & Make-up

As with wardrobe, keep it simple and be yourself. Your daily hairstyle is fine, and make-up should be what you typically wear. You can lightly dust the nose and forehead with translucent powder to remove shine. *Rely on the professional make-up artist that your institution provides.*

5.10 References and Further Readings

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3.5.11 Model Questions

Short Questions:

(a)Define voice culture.

(b) Write about the dos of presentation

(c) How hair and make-up is significant in the art of presentation?

(d) Write about the importance of dress for good presentation

Long Questions

(a) Write a note on the importance of voice in presentation

(b) Discuss about the elements of good presentation

(c) You are newly recruited in a television channel. What are the precautions you shall have to remember for your presentation? Discuss.

UNIT-1

Radio Journalism

Unit Structure:

1.1 Introduction –

Radio is one of the most popular means of mass media. In India, All India Radio now known as Akashvani covers 92 percent of population which is simply phenomenal. Radio provides multiple opportunities- news, music, talks, and drama and so on. The FM stations and Community Radio cater the need base interest of the listeners. The role of radio becomes more crucial during natural disaster like flood, cyclone and war etc. Of late, radio can be accessed through various means – FM, Short and Medium Waves, mobile apps.

1.2 Objective-

In this unit, we will try to discuss the history of Akashvani , the changing scenario of radio reporting and news reading , the impact of radio news and talks, how does radio work during crisis period

and as a whole the changing scenario of radio as a tool of mass communication.

1.3 Growth and Development of Radio and TV in India

Akashvani has been serving to inform, educate and entertain its audiences since its inception, living up to its motto – 'Bahujan Hitaya : Bahujan Sukhaya'. One of the largest broadcasting organisations in the world in terms of the number of languages of broadcast and the spectrum of socio-economic and cultural diversity it serves, it's home service comprises of 470 Broadcasting centers located across the country, covering nearly 92% of the country's area and 99.19 % of the total population. Terrestrially, Akashvani originates programming in 23 languages and 179 dialects. (Source- Prasar Bharati).

The News Services Division (NSD), Program Section, Engineering Wing, Administrative and Security wings, Audience Research are some of the components of the Akashvani.

However, the broadcasting in India began about 13 years before Akashvani came into existence as per the available information. The website of the Prasar Bharati says- in June 1923 the Radio Club of Bombay made the first ever broadcast in the country. This was followed by the setting up of the Calcutta Radio Club five months later. The Indian Broadcasting Company (IBC) came into being on July 23, 1927, only to face liquidation in less than three years.

In April 1930, the Indian Broadcasting Service, under the Department of Industries and Labour, commenced its operations on an experimental basis. Lionel Fielden was appointed the first Controller of Broadcasting in August 1935. In the following month Akashvani Mysore, a private radio station was set up. On June 8,

1936, the Indian State Broadcasting Service became All India Radio.

The Central News Organisation (CNO) came into existence in August, 1937. In the same year, All India Radio came under the Department of Communications and four years later came under the Department of Information and Broadcasting. When India attained independence, there were six radio stations in India, at Delhi, Bombay, Calcutta, Madras, Tiruchirapalli and Lucknow. There were three in Pakistan (Peshawar, Lahore and Dacca). AIR then had coverage of just 2.5 % of the area and 11% of the population. The following year, CNO was split up into two divisions, the News Services Division (NSD) and the External Services Division (ESD). In 1956 the name AKASHVANI was adopted for the National Broadcaster. The Vividh Bharati Service was launched in 1957 with popular film music as its main component.

The phenomenal growth achieved by All India Radio has made it one of the largest media organisations in the world. With a network of 262 radio stations, AIR today is accessible to almost the entire population of the country and nearly 92% of the total area. A broadcasting giant, AIR today broadcasts in 23 languages and 146 dialects catering to a vast spectrum of socio-economically and culturally diverse populace.

Programmes of the External Services Division are broadcast in 11 Indian and 16 foreign languages reaching out to more than 100 countries. These external broadcasts aim to keep the overseas listeners informed about developments in the country and provide a rich fare of entertainment as well.

The News Services Division, of All India Radio broadcasts 647 bulletins daily for a total duration of nearly 56 hours in about 90

Languages/Dialects in Home, Regional, External and DTH Services. 314 news headlines on hourly basis are also being mounted on FM mode from 41 AIR Stations. 44 Regional News Units originate 469 daily news bulletins in 75 languages. In addition to the daily news bulletins, the News Services Division also mounts number of news-based programmes on topical subjects from Delhi and its Regional News Units

AIR operates at present 18 FM stereo channels, called AIR FM Rainbow, targeting the urban audience in a refreshing style of presentation. Four more FM channels called, AIR FM Gold, broadcast composite news and entertainment programmes from Delhi, Kolkata, Chennai and Mumbai. With the FM wave sweeping the country, AIR is augmenting its Medium Wave transmission with additional FM transmitters at Regional stations.

In keeping with the Government decision for transition to the digital mode of transmission, AIR is switching from analog to digital in a phased manner. The technology adopted is the Digital Radio Mondiale or DRM. With the target of complete digitization by 2017, the listeners can look forward to highly enhanced transmission quality in the near future.

For Doordarshan , the journey was started on 15th of September , 1959. The makeshift studio and its players beamed their voice and visuals through a small transmitter, daring to dream of becoming the prime vehicle of development of a nation that had shrugged off its yoke of slavery just over a decade earlier.

The experiment became a service in 1965, when Doordarshan began beaming signals to reach television sets in living rooms in and around New Delhi. By 1972, services were extended to Mumbai and Amritsar and then on, to seven other cities by 1975. All this time, it

was part of the national broadcaster, All India Radio. On April 1, 1976, it transited to become a separate Department in the Ministry of Information and Broadcasting, though still serviced by All India Radio, especially for its news.

Since then, the organization has grown to cover the length and breadth of the country, painstakingly caring for the interest of all linguistic, geographical and cultural groups and promoting social, cultural and educational development of the country though an array of transmitter networks equipped with studios and facilities to produce programmes even in regional languages.

In doing so, the country's prime television service provider has also become the engine for celebration of its diversity and the iteration of its unity. It has been able to do so because it has no single market to pamper – because it is the harbinger of news and information services to every geographical community, all occupational groups and each assemble of interests.

At Doordarshan, engineering blends with creativity to make it a role model as a matrix of genres evolve from a spread of centers, an array of transmissions and hundreds of studios. This fusion of modern digital engineering hardware and the software of a three tier programme service spread nationally, regionally and even locally.

Over the decades, the results of this melt of engineering and creativity have captivated million who would be glued to television sets to watch anything from news to cricket match telecasts, exhibitions of art, culture and Bollywood to education on the arts and sciences alike, from catering to a vast farming community to catalyzing the growth of industry and commerce.

Over the years, the limited engineering that entailed a sole experimental transmitter has undergone a multiplication as Doordarshan operates 23 satellite channels providing TV coverage to about 92 percent of the country's population besides providing free-to-air DTH service and thus provides news, entertainment, sports, talks etc.

Mission & Objectives of Prasar Bharati

The major objectives of the Prasar Bharati Corporation as laid out in the Prasar Bharati Act, 1990 are as follows:

- To uphold the unity and integrity of the country and the values enshrined in the Constitution.
- To safeguard the citizen's right to be informed freely, truthfully and objectively on all matters of public interest, national or international, and to present a fair and balanced flow of information including contrasting views without advocating any opinion or ideology of its own.
- To promote national integration.
- To pay special attention to the fields of education and spread of literacy, agriculture, rural development, environment, health & family welfare and science & technology.
- To create awareness about women's issues and take special steps to protect the interests of children, aged and other vulnerable sections of the society.
- To provide adequate coverage to diverse cultures, sports and games and youth affairs.

 To promote social justice, safeguarding the rights of working classes, minorities and tribal communities.

 To promote research and expand broadcasting faculties & development in broadcast technology.

The Prasar Bharati (Broadcasting Corporation of India) Act, 1990 that was passed by the Parliament is considered to be very important .This acts provides autonomy to the All India Radio and Doordarshan. As public service broadcasting agencies, All India Radio and Doordarshan are primarily focused on educate, inform and entertain the citizens of the country. Both the agencies follow set practice of norms and not run by any agenda.

Below are the some of the details of the Prasar Bharati (Broadcasting Corporation of India) Act, 1990 which makes both the outlets free from any interference -

Establishment and composition of Corporation.

1. With effect from such date as the Central Government may by notification appoint in this behalf, there shall be established for the purposes of this Act a Corporation, to be known as the Prasar Bharati (Broadcasting Corporation of India).

2. The Corporation shall be a body corporate by the name aforesaid, having perpetual succession and a common seal with power to acquire, hold and dispose of property, both movable and immovable, and to contract, and shall by the said name sue and be sued.

3. The headquarters of the Corporation shall be at New Delhi and the Corporation may establish offices, kendras or stations at other places in India and, with the previous approval of the Central Government, outside India.

4. The general superintendence, direction and management of the affairs of the Corporation shall vest in the Prasar Bharati Board which may exercise all such powers and do all such acts and things as may be exercised or done by the Corporation under this Act.

5. The Board shall consist of :-

a. a Chairman

b. one Executive Member;

c. one Member (Finance);

d. one Member (Personnel);

e. six Part-time Members;

f. Director-General (Akashvani), ex-officio;

g. Director-General (Doordarshan), ex-officio;

h. one representative of the Union Ministry of Information and Broadcasting, to be nominated by that Ministry and

i. two representatives of the employees of the Corporation, of whom one shall be elected by the engineering staff from amongst themselves and one shall be elected by the other employee from amongst themselves.

6. The Corporation may appoint such committees as may be necessary for the efficient performance, exercise and discharge of its functions, powers and duties: Provided that all or a majority of the members of each committee shall be Members and a member of any such committee who is not a Member shall have only the right to attend meetings of the committee and take part in the proceedings thereof, but shall not have the right to vote.

7. The Corporation may associate with itself, in such manner and for such purposes as may be provided by regulations, any person whose assistance or advice it may need in complying with any of the provisions of this Act and a person so associated shall have the right to take part in the discussions of the Board relevant to the purposes for which he has been associated, but shall not have the right to vote.

8. No act or proceeding of the Board or of any committee appointed by it under sub-section (6) shall be invalidated merely by reason of —

a. any vacancy in, or any defect in the constitution of, the Board or such committee; or

b. any defect in the appointment of a person acting as a Member or a member of such committee; or

c. any irregularity in the procedure of the Board or such committee not affecting the merits of the case.

Regarding the evolution and journey of Television and Radio in India, senior journalist Shivaji Sarkar in his article - Television and Radio are Changing India wrote - *The 2014 brought a huge change. With Prime Minister Narendra Modi starting his* ***Mann ki Baat*** *on AIR it created a convergence of radio, TV – all TV*

channels, and dish. The 34th Mann ki Baat broadcast in end July proved that even official broadcasts can boost listening, viewership and ratings of all media, yes even of newspapers.

Stop to Consider
Radio and TV in India has achieved the present shape after years of experiment. Now Akashavnai covers 92 percent of the population. The setting up of Prasar Bharati gave more power to both the organizations.

Check Your Progress
Question 1- Briefly write the history of All India Radio
Question 2- What is the aim and Objective of the Prasar Bharati Act?
Question 3- Write a note on the early period of Doordarshan?

CHAPTER 2

PHASES OF PRODUCTION

Pre- Production –

Radio generates programs for News and Program sections. The news section besides producing news is mostly responsible for talks and discussions on current affairs and welfare schemes, the Program people deal in music, art and literature, drama, youth program as well as public welfare activities of the government. The

pre-production process includes planning of the whole program, booking of experts/ artists / guests and moderator, selection of topics and themes, venue in case of outdoor recording. Background research is also important for radio programs particularly for interviews and talks. Now let me put couple of examples for better understanding –

1) If the news unit of the Akashavni Guwahati desires to do an interview of the Education Minister of Assam, the moderator must do some homework before the program. For example, the present scenario of the education sector in Assam, the policy of the minister or the state government in this regard or any major/important announcements that have been made by the concerned minister recently. Also, the political career of the minister along with his background may be studied properly. The same preparation needs to be done by the Program section staff for interview/discussion programs.

2) Regarding programs such as year ending round up or Phone in request program(theme based) the producer cum performer has to do his homework required to reflect the theme (in live programs , the presenter has to apply some techniques such as when a song is being played he would talk to the next listener over phone and will try to know about him and his related facts and keeps him on hold, so that when he will come live other listeners will think that the presenter is asking him in a very lively manner and also he is well informed about a specific place and their lifestyle etc)

3) As the broadcast of a drama generates attraction from the listeners, thorough preparation is required for a

successful production. First of all, the writer and script to be fixed. Depending upon the demand of the script, artists to be booked. For background music, musicians to be arranged. Most important part is – booking a slot means on which date and time the proposed drama will go on air.

Production –

After the pre-production works are completed, the production process will begin. There are several methods of radio program productions, viz live phone in program, recorded program, outdoor broadcast etc. Mostly talk shows and discussion programs come under the live phone in category. For example – the weekly Dristipat and *Kalpataru* program of Akashvani Guwahati centre. For such programs, coordination is required from all sections of the radio including program, news and engineering, library etc. Telephone connection is a must in the studio so that listeners can connect to the guests during the program and ask questions. There wouldn't be any editing option in the live program so utmost caution to be taken by the moderator and guests in question- answer session. More or less the same pattern is being followed in radio in such live phone in programs. Here it needs to be mentioned that live programs like music and song, talks, discussion etc are also being aired without phone in facility.

Now let's discuss the non-live program parts like drama, students program, music, agriculture based programs, music and cultural shows etc. Such programs can be recorded either in the studio or outdoors. Outdoor means the office or house of the guests, educational institutes, government

offices or any other places. A good quality recorder is required to record the program. Depending upon the program or script, ambience to be adjusted. For example, if we are recording an interview it is always preferable to find a noiseless place. One or multiple audio recorders are required to conduct the recording of the program. It is always good to record at least 4-5 additional minutes from the actual allotted time slot of the program. For example, if the radio station allotted 20 minutes for an interview it is better to record 23 to 25 minutes. However this is not required during live events. Of late, recording of comments, bytes etc (for example 2-3 minutes) can be done over phone also.

Post- Production –

Post production means editing as well as planning for broadcasting. For editing a computer set with proper software is required. The radio centers have all the facilities. During editing final touch to be given and the reordered programs will be made ready to broadcast. Voice over and music to be added as per script. Any unwanted comments, bytes etc to be deleted. Caution to be taken while using outsourced background music to avoid copyright violation. On most of the occasions, the radio station maintains a good archive that contains old and rare music, historical statements etc. After the completion of the editing works, publicity of the event has to be given through news bulletins, general announcement or social media. The announcement consists of the name of the program and guests, date and time of broadcast and the topic or theme of the program if any.

STOP TO CONSIDER
Good production of any radio programs or talk show is the key for any station that connects with listeners. A rigorous practice to be followed starting from pre –production to post-production by team of dedicated people. Listeners remember good quality programs for years .
CHECK YOUR PROGRESS Question 1- Write the various steps of pre-production Question 2- What are main features of the outdoor recording of an interview?

CHAPTER 3

STUDIO MANAGEMENT

The studio is the heart of a radio station. It is the place where programs are being produced and edited. Some basic things required for the functioning of a radio include computer, microphone and headphones, power supply, recording and editing software. A studio must be free from outside noise as audio is everything for radio. That's why experts always suggest setting up radio studios away from airports or railway stations.

Let me give the example of Akashvani Guwahati station and its studio management and maintenance system. The station has mainly four types of studios with the facility of an extra studio for up linking of programs. Mr. Titash Roy, a former student of Tezpur University wrote a paper on the technical setup of Akashvani Guwahati. He explained the four main studios as below-

1) Talk Studio- This studio is mainly designed for recording the conversation between one to three persons. This studio is

of the size of a small room with two to three microphones. The walls of the studio are designed in such a way so as to keep the reflection minimum. The Akashvani Guwahati station has two such talk studios.

2) Music Studio- This kind of studio is primarily designed for recording live music or on air musical programs. This studio is comparatively large and the walls are provided with acoustics to allow the reflection of sound from walls. This studio has several microphones for better recording of sound from various musical instruments.

3) Drama Studio- This studio is mainly designed for recording drama or discussion. This studio has numerous microphones and the walls are so constructed so as to provide the necessary reflections.

4) Playback Studio- A playback studio is the one where pre-recorded programs are being played. Sometimes it is also used as a talk studio having a central microphone. This studio is provided with a phone-in console in order to receive the phone calls of the listeners so that they can interact with the guests in live talk shows or play their requested song. This kind of studio is used in phone in and live discussion programs.

5) Uplink Studio-

This is a special type of studio mainly used to upload programs to the satellite so that it can be downloaded by the other stations of AIR.

In every radio station, there is a control room. In radio, whatever is spoken in the studio or played from a CD or pen drive or computer is sent to the control room and from the control room, programs are being sent to the transmitter. So, the control room staff basically takes care of the studios.

They monitor microphones, telephone lines, and sitting arrangements inside the studio.

The maintenance of studios is important. These things are basically require for studio maintenance- good brand of furniture and floor polish , good quality cleaning powder , washing soap, rough duster for scrubbing linoleum with cleaning powder and water, muslin cloth , vacuum cleaner , dry distemper , some small pieces of clean Celotax, sandpaper number 100, oil paints and distempers of different shades as used in the studios , French chalk , cobweb brushes , calcium chloride for 'Breathers " , Metal polish , Some thin oil and V-saline for light machines. A cleaning kit box should be maintained for carriage of the above material. (Source- A paper submitted by Zevotsol Sothu, Nagaland University) .

STOP TO CONSIDER

A clean and well equipped studio is one of the pre conditions for a quality program production in radio. The studio operates in soundproof mode with all required facilities of recording and editing.

CHECK YOUR PROGRESS

QUESTION 1- What is the role of Uplink Studio ?

QUESTION- Explain the various form of studios that are being operated at Akashavni Guwahati station.

CHAPTER-4

RADIO NEWS AND REPORTING

Akashvani has the distinction of being one of the major broadcasting organizations in the world. The News Services Division (NSD) of Akashvani disseminates news and comments to listeners in India and abroad. From 27 news bulletins in 1939-40, Akashvani today has over 600 bulletins daily in 92 languages/dialects in the Home, Regional and External Services.

In addition to the daily news bulletins, the News Services Division also mounts everyday a number of news-based programmes on topical subjects from Delhi and some other Regional News Units.

The history of news broadcasting in India is much older than that of All India Radio or Akashvani . The first ever news bulletin in the country went on the air from the Bombay Station on 23rd of July , 1927 under a private company, the Indian Broadcasting Company. A month later on 26th of August , 1927 another bulletin in Bengali was started from the Calcutta Station. Until 1935, two bulletins, one each in English and Hindustani were broadcast from Bombay and a bulletin in Bengali was broadcast from Calcutta. The Indian Broadcasting Company went into liquidation in March, 1930 following which broadcasting came under the direct control of the Government of India. The service was designated as the Indian State Broadcasting Service. It was renamed as All India Radio on June 8, 1936.

The real breakthrough in news broadcasting came after January 1936 when the first news bulletin from the Delhi Station went on the air on January 19, 1936 coinciding with the starting of its transmission. Besides, news bulletins in English and Hindustani, talks on current affairs were also started from the Station in both the languages.

The Central News Organization was set up on 1st of August, 1937. Charles Barns took charge as the first News Editor in September and he later became the first Director of News. The outbreak of the Second World War in 1939 gave an impetus to the development of the Organization. The Monitoring Service was set up in 1939 to monitor foreign broadcasts. In 1943, the External Broadcast Unit was set up under the Director of News. By 1945, the Central News Organization was handling news bulletins in different Indian languages as well as in the External Services.

After Independence, news broadcasts of AIR grew both in quantity and quality. More emphasis was laid on national and regional news bulletins.

The News Services Division broadcasts from Delhi 86 daily news bulletins in English, Hindi and 17 Indian languages for a duration of 12 hours and 20 minutes. In Hindi, 21 news bulletins are broadcast for duration of two hours 30 minutes while 20 news bulletins are put out in English everyday for duration of 2 hours and 25 minutes. These include two Sports news bulletins one each in Hindi and English. Apart from Hindi, forty-time news bulletins in 17 Indian languages for duration of 7 hours and 45 minutes are broadcast every day. The importance of language bulletins lies in the fact that they are the main source of national, international and regional news for the masses in small towns and villages. The evening bulletins in Dogri, Kashmiri and Urdu also include a commentary on topical subjects.

Regional bulletins were introduced in the early fifties. The first news bulletins in regional languages were started in April, 1953 from Lucknow and Nagpur Stations. In 1954-55, Regional News Units were set up at Bombay, Madras and Calcutta. This went on steadily and at present there are 45 Regional News Units

functioning in different parts of the country. 146 news bulletins in 66 regional languages/dialects including English and Hindi are broadcast for duration of 19 hours and 35 minutes.

The External Services were part of the News Services Division. They were de-linked from the News Services Division on September 15, 1948. However, the responsibility of compiling the external news bulletins remains with the News Services Division. At present, a total of 66 news bulletins are broadcast daily in 26 languages (Indian and Foreign) for duration of 9 hours and 13 minutes.

In February 1936, talks on current topics were introduced for the first time in English. In September, talks on current topics in Hindustani were added. Later 'Topics for Today' and 'Focus' on matters of current interest were introduced on 26th October, 1962. The daily 'Spotlight' and weekly 'Current Affairs' titles were given in place of 'Topic for Today' and 'Focus' in 1967.

The Current Affairs programme deals with topical issue in which various specialists on the subject express their viewpoints. The half-an-hour programme in English goes on the air from Delhi from 9.30 p.m. on Sundays. The corresponding Hindi programme, "Charcha Ka Vishai Hai" goes on the air from 9.30 p.m. on Wednesdays. 'Samayiki' and 'Spotlight' are also news-based programmes broadcast daily from Delhi. Of late the local translated version of Spotlight is being broadcast by local stations of Akashvani. Commentaries on current topics in Urdu, Kashmiri and Dogri are also put out daily from headquarters, Delhi.

(Source- Prasar Bharati and NSD website)

Akashvani News at a glance -

- 607 bulletins daily in 92 languages/dialects
- Foreign language bulletins in Arabic, Baluchi, Burmese, Dari, French, Indonesia, Persian, Pashtu, Russian, Sinhala, Swahili, Tibetan, Thai, Chinese etc.
- Over 60 hours of total daily broadcast of news bulletins and current affairs programs
- Special bulletins/programmes during elections, budgets, sessions of parliament/state legislatures
- Radio Plus: News on Website, News on Social Media- **Facebook, Twitter, Soundcloud, YouTube & Instagram**.

NEWS BULLETINS

A. Total daily Broadcast duration of News Bulletins and News Based Programmes from NSD and RNUs

Bulletins	**Number of Bulletins**	**Duration (daily in minutes)**	**Language(s)/Dialects**
Hourly Bulletins, Regional bulletins, External bulletins, FM headlines bulletins etc from NSD and RNUs.	607	3150 min (52 hrs 30 min)	92
	(NSD – 129)	NSD: 846 min (14 hrs 06 min)	
	(RNU – 478)	RNUs: 2304 min (38 hrs 24 min)	
News based	10-12	180 min	

programmes- NSD HQ (Approximate)		(03 hrs)	
News based programmes- RNUs (Approximate)	35-40	280 min (04 hrs 40 min)	
Total broadcast time from NSD RNUs	**3610 min (60 hrs 10 min)**		

B. <u>Details of News Bulletins from NSD HQ. (Delhi)</u>

News Bulletins	**Number of Bulletins**	**Duration (daily in minutes)**	**Language(s)/Dialects**
Ø Hourly Bulletins (Home)	44	285 min	English- 21 Hindi- 23
Ø External Bulletins	15	117 min	English- 10 Hindi- 05
Ø Indian Language Bulletins (Home and External)	23	212 min	Nepali (04), Kashmiri (02), Sanskrit (02), Punjabi (04), Urdu (11)
Ø Foreign Language Bulletins	23	208 min	Arabic (3), Baluchi (1), Burmese (1), Dari (2), French (1),

(Overseas Services)			Indonesia (1), Persian (3), Pashtu (3), Russian (1), Sinhala (2), Swahili (1), Tibetan (2), Thai (1), Chinese (1)
Ø FM Headlines	24	24 min	English-06, Hindi-18
Total (daily)-Bulletins	129 Bulletins	846 minutes (14 hrs 06 min)	
Total (daily)-News based programmes (Approximate)	10-12	180 min	English, Hindi
Total daily broadcast time from NSD HQ	**1026 minutes (17 hrs 06 min)**		

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C. <u>Regional Bulletins</u>

Regional news bulletins were introduced in the early fifties. The first such news bulletins were broadcasted in April, 1953 from Lucknow and Nagpur Stations. In 1954-55, Regional News Units were set up at Bombay, Madras and Calcutta. This went on steadily and at present there are **46** Regional News Units functioning in different parts of the country. **478** news bulletins in **77** regional languages/dialects including English and Hindi are being broadcast from Regional News Unit or RNUs for duration of nearly **38** hours. These include **255** headlines bulletins on FM and other frequencies.

Details of Bulletins and Current Affairs Programmes of RNUs

Total No. of RNUs - 46

News Bulletins:-

News Bulletins from RNU	**Number**	**Duration (daily in minutes)**	**Language(s)/Dialects**
(a) Regional Bulletins	176	1339	77
(b) National bulletins	35	345	#Kannada, Telugu, and Sindhi * Assamese, Odia, Malayalam, Tamil, Marathi, Gujarati, Dogri, Arunachali (Hindi/English), Bangla, @Konkani
(c) FM Headlines	255	505	17
(c) External Bulletins in Indian Languages	12	115	Kannada, Tamil, Telugu, Malyalam, Gujarati, Sindhi and Bangla 7
Total (daily)	**478**	**2304**	

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Programmes:-

News based progammes	**Number per year**	**Duration (in hours)**	**Language(s)/Dialects**
(a) News Reel	2132	538	15

(b) District News Letter	5468	507	16
(c) News Commentary	2236	203	10
(d) Others	2884	458	17
Total (per year)	12720	1706	
Total (per month)	1060	140	
Total (daily)-News based programmes (Approximate)	**35-40**	**4 hrs 40 min**	

NEWS BASED PROGRAMMES

During February 1936, talks on current topics were introduced for the first time in English. In September that year, talks on current topics in Hindustani were added. Later 'Topics for Today' and 'Focus' on matters of current interests were introduced on 26th October, 1962. In 1967, the programmes "Topic for Today" and "Focus" were renamed as "Spotlight and "Current Affairs".

News based programmes broadcast from NSD HQ.

Daily

S. No	Name of Programme	Frequency	Time of broadcast	Duration	Language	Name of Channel
1	Spotlight	Daily	2115-2130 hrs.	15 min.	English	Rajdhani
2	News Analysis	Daily	2115-2130 hrs.	15 min	English	FM Gold
3	Samayiki	Daily	1935-1945 hrs.	10 min	Hindi	Indraprastha

4	Market Mantra	Daily	1830-1900 hrs.	30 min	Bilingual	FM Gold
5	Sports Scan	Daily	2030-2045 hrs.	15 min	Bilingual	FM Gold
6	Newsreel (Mon/Tue/Thu/ Sat)/ Samachar Darshan (Wed/Fri/Sun)	Daily	2020-2030 hrs.	10 min	English/ Hindi	Rajdhani
7	Press Comments	Daily	1750-1755 hrs	05 min	English	Rajdhani
8	Parikarma (News Magazine Programme)	Daily	1630-1700 hrs	30 min	Bilingual	FM Gold
9	Aaj Savere (News Magazine Programme)	Daily	0730-0800 hrs.	30 min	Bilingual	FM Gold
10	Gulf Charcha	Daily	2200-2205 hrs	05 min	Hindi	ESD Hindi Service
Weekly						
11	Public Speak	Monday	2130-2205 hrs	35 min	Bilingual	FM Gold
12	Vaad-Samvaad	Tuesday	2145-2200 hrs	15 min	Hindi	FM Gold
13	Money Talk	Tuesday	2130-2145 hrs.	15 min	English	FM Gold
14	Charcha ka Vishai hai	Wednesday	2130-2200 hrs.	30 min	Hindi	Indraprastha/ FM Gold

15	Surkhiyon Mein	Thursday	2145-2200 hrs.	15min	Hindi	FM Gold
16	Country Wide	Thursday	2130-2145 hrs.	15min	Bilingual	FM Gold
17	Current Affairs	Friday	2130-2200 hrs.	30 min	English	Rajdhani/ FM Gold
	Total			**320 min (5 hrs 20 min)**		

RADIO NEWSREEL

Radio Newsreel was started on December 10, 1955 both in English (Radio Newsreel) and Hindi (Samachar Darshan) from Delhi. Newsreel in English is broadcast on Monday, Tuesday, Thursday and Saturday while Samachar Darshan is broadcast on Wednesday, Friday and Sunday. Some Regional News Units also put out regional Newsreels in the respective regional languages.

SOCIAL MEDIA

The NSD, AIR has been expanding its presence year after year, across various domains with the aim to disseminate news to the public and reaching diverse cross sections of the society.

Since three years, the News Services Division has substantially increased its presence on the social media viz Website, Facebook, Twitter, Soundcloud, YouTube & Instagram and has crossed major milestones in reaching out to audience far and wide.

Twitter	Started in January, 2013 Over 3.2 million followers
Facebook	Started in June, 2013

	3.3 million followers on NSD facebook accounts
Website	More than 40 million visits per month.
Sound Cloud	Started in 2014 Over 20 thousand followers

Languages of Bulletins

Languages of News bulletins of Eighth Schedule of Constitution of India: (Total Languages- 22)

Assamese, Bengali, Bodo, Dogri Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Maithili, Nepali, Oriya, Punjabi, Sanskrit, Santhali, Sindhi, Tamil, Telugu and Urdu.

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Other Indian Languages Bulletins: (Total Languages- 5)

Bhojpuri, Chhattisgarhi, English, Ladakhi, Rajasthani.

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Bulletins in Dialects : (Total Dialects- 51)

Angami, Adi, Adi(Galo), Apatani, Ao, Balti, Bhojpuri, Bhutia, Chakhesang, Chang, Dimasa, Garo, Gojri, Hmar, Ho, Idu, Jaintia, Kabui, Karbi, Khasi, Khampti, Khiamnugan, Konyak, Kokborok, Kuki, Kurukh, Lepcha, Lotha, Mao, Miju Mishmi Wancho, Mundari, Mizo, Nagamese, Nagpuri, Nocte, Nyshi, Paite, Pahari, Phom, Purgee, Rengma, Sangtam, Sambalpuri, Sema, Thadou, Tangkhul, Tangin, Tangsa, Tulu, Yimchungru, Zeilang.

Bulletins in Foreign Languages: (Total Languages- 14)

Arabic, Baluchi, Burmese, Chinese, Dari, French, Indonesia, Persian, Pashto, Russian, Sinhala, Swahili, Tibetan, Thai.

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News Schedule

Schedule of daily news bulletins from Delhi along with their channel of broadcast

ENGLISH			
S. No.	**Time (Hrs.)**	**Duration**	**Channel**
1.	0000-0005	05 min	Rajdhani/FM Gold
2.	0105-0110	05 min	National (MW)
3.	0200-0205	05 min	FM Gold
4.	0305-0310	05 min	National (MW)
5.	0400-0405	05 min	FM Gold
6.	0505-0510	05 min	National (MW)
7.	0605-0610	05 min	Rajdhani/ FM Gold
8.	0815-0830	15 min	Rajdhani/ FM Gold
9.	0905-0910	05 min	Rajdhani
10.	1005-1010	05 min	Rajdhani
11	1200-1205	05 min	Indraprastha/ FM Gold
12.	1300-1305	05 min	Rajdhani/ FM Gold
13.	1400-1415	15 min	Rajdhani/ FM Gold
14	1500-1505	05 min	FM Gold
15.	1600-1605	05 min	Rajdhani/ FM Gold
16.	1705-1710	05 min	Rajdhani
17.	1800-1805	05 min	Rajdhani
18.	2000-2005	05 min	RN
19.	2005-2010	05 min (Sports)	RN
20.	2100-2115	15 min	Rajdhani/FM Gold
21.	2300-2305	05 min	Rajdhani
Total	**21 Bulletins**	**135 min (02 hours 15 min)**	

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HINDI			
S. No.	**Time (Hrs.)**	**Duration**	**Channel**
1.	0005-0010	05 min	Indraprastha/ FM Gold
2.	0100-0105	05 min	FM Gold
3.	0205-0210	05 min	National (MW)
4.	0300-0305	05 min	FM Gold
5.	0405-0410	05 min	National (MW)
6.	0500-0505	05 min	FM Gold
7.	0600-0605	05 min	Indraprastha/ FM Gold
8.	0700-0705	05 min	Indraprastha/ FM Gold
9.	0800-0815	15 min	Indraprastha/ FM Gold
10.	0900-0905	05 min	Indraprastha
11	1000-1005	05 min	Indraprastha
12.	1100-1105	05 min	Indraprastha/ FM Gold
13.	1205-1210	05 min	FM Gold
14	1305-1310	05 min	Indraprastha
15.	1415-1430	15 min	Indraprastha/ FM Gold
16.	1700-1705	05 min	Indraprastha
17.	1805-1810	05 min	Indraprastha
18.	1900-1905	05 min	Indraprastha
19.	1905-1910	05min (Sports)	FM Gold
20	**1950-2000**	**10 min *(Pradeshik)**	**Indraprastha**
21.	2045-2100	15 min	Indraprastha
22.	2200-2205	05 min	FM Gold
23.	2305-2310	05 min	Indraprastha
Total	**23 bulletins**	**150 min** **(02 hours 30 minutes)**	

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After the history and growth of news, let us see the various aspects of radio news reporting, editing and news reading. Like our media, radio news is also based on common 5 Ws (what, why, where, who and when) and 1 H (how) theory. Radio news follows Inverted Pyramid structure. For example, the most important information of any event or incident comes first followed by lesser important fact and lastly the background etc. It helps radio listeners to grasp the proper information quickly. Radio News always uses simple language so that even an illiterate listener can understand it. Another important aspect is to – avoid giving to many data and information in one sentence. Instead of doing so, the information and data can be delivered in 2- 3 sentences so that a listener can easily understand the news. Radio News never prorogates any agenda, personal attack, unparliamentarily or unconstitutional words and languages. People have trust that radio news never gives wrong or unauthentic information. So a radio reporter or an editor should be cautious while airing or filing news for the organization. Any unverified news must not go on air. Any unverified information that may lead to communal tension or any other law and order situation in the society should be avoided. Like other media, radio also broadcasts news on almost every aspects starting from politics, business, sports, art and culture, literature, human interest stories, development news etc. In radio news, voice cast or dispatch is being used to give proximity to the news bulletin. The voice cast is being given by the reporter from the spot and his voice along with name can be listen by the audience. Let me give couple of examples of voice dispatch in Akashavni News-

1) The nationwide outreach initiative, Viksit Bharat Sankalp Yatra, designed to inform and empower citizens about the central government's flagship schemes is currently ongoing in Assam. Chief Minister, Union Ministers, State

Ministers, MPs and MLAs are attending the programmes. More from our Correspondent:

"***The Viksit Bharat Sankalp Yatra is successfully going on in all the Urban and rural areas of Assam. This Yatra is spreading awareness about various flagship schemes of the government of India for creating a positive change to the citizens including on the spot services to address the immediate needs of the community. Chief Minister Himanta Biswa Sarma attended several Viksit Bharat Sankalp Yatra Programmes. Union Minsters, MPs, Government of Assam Minsters, MLAs and senior government officials attending the programmes regularly. As part of this Yatra, experience sharing sessions by the beneficiaries, through 'Meri Kahani Meri Zubani' is creating a positive impact on others. Taun Das of Guwahati shared his experience on how the PM SVANidhi scheme benefited him.***

Aminul Haque Jwadder, Akashvani News, Guwahati."

2) Prime Minister Narendra Modi will chair a three-day National Conference of Chief Secretaries in New Delhi. This is the third such conference, the first was held in June 2022 in Dharamshala, and the second in January this year in the national capital. Driven by the vision of the Prime Minister of putting the principle of cooperative federalism in action, the National Conference of Chief Secretaries is organized to encourage participative governance and partnership between the Centre and the State Governments. The conference will

witness the participation of more than 200 people composed of representatives of the Central Government, Chief Secretaries, and other senior officials of all States and Union Territories.

The conference will lay the ground for collaborative action to achieve a better quality of life for both rural and urban populations by strengthening the delivery mechanisms of government interventions. The key focus area of the Conference will be on 'Ease of Living' and the implementation of a common development agenda in partnership with the States. The National Conference will also emphasize easy access to welfare schemes and quality in service delivery, including five sub-themes, which are Land and Property, Electricity, Drinking Water, Health, and Schooling. Apart from these, special sessions will also be held on 'Cyber Security, emerging challenges on Artificial Intelligence in governance.The deliberations of the conference will also be done on Drug de-addiction and rehabilitation, Amrit Sarovar, Tourism promotion, Branding and role of States, PM Vishwakarma Yojana, and PM SVANidhi. SANJEEV JASROTIA, AKASHVANI NEWS, DELHI.

In the above two news, we can see that reporters from Guwahati and Delhi gave voice dispatch with their names and locations. This gives a feel to the listeners and locates them with the news story. The ideal duration of such dispatch will be between 45 seconds to 1 minute.

Apart from voice dispatch, radio also uses bytes and comments of important persons and experts in news. For example, if the Prime Minister of India is delivering a speech

on Good Governance or a Sport Event, his two to three important bytes to be used in the bulletin. The length of one byte may be on 15- 20 seconds. This is an example of using bytes in bulletin-

केन्द्रीय मंत्रिमंडल की आर्थिक मामलों की समिति ने वर्ष 2024 के लिए खोपरा के न्यूनतम समर्थन मूल्य में बढोतरी को मंजूरी दी। सूचना और प्रसारण मंत्री अनुराग सिंह ठाकुर ने मंत्रिमंडल की बैठक के बाद यह जानकारी दी।

आज कोपरा यानी कि नारियल की गरी के वर्ष 2024 के लिए एमएसपी निर्धारित किया गया है। 2023 की तुलना में मिलिंग कोपरा का निर्धारित एमएसपी 300 रूपए प्रति क्विंटल और बाल कोपरा का 250 रूपए प्रति क्विंटल बढ़ाया गया है।

श्री ठाकुर ने बताया कि 2014-15 में मिलिंग खोपरा का न्यूनतम समर्थन मूल्य पांच हजार 250 रुपये प्रति क्विंटल था जो 2024-25 में बढकर 11 हजार 160 रुपये हो जाएगा। बॉल खोपरा का न्यूनतम समर्थन मूल्य 2014-15 में साढे पांच हजार रुपये प्रति क्विंटल था जो 2024-25 में बढकर 12 हजार रुपये प्रति क्विंटल हो जाएगा। श्री अनुराग सिंह ठाकुर ने बताया कि मंत्रिमंडल ने बिहार में दीघा और सोनपुर को जोड़ने वाली गंगा नदी पर लगभग साढे चार किलोमीटर से लम्बे छह लेन वाले नए पुल के निर्माण को भी स्वीकृति दी है।

सूचना और प्रसारण मंत्री ने बताया कि त्रिपुरा में खोवाई-हरिना सड़क के 135 किलोमीटर लंबे हिस्से के सुधार और चौड़ीकरण को भी मंजूरी दी गई है।

त्रिपुरा में खोवाई से हरिना तक के रोड को बनाने के लिए 2015 में घोषणा हुई थी। खोवाई तक रोड को अभी बनाने का काम चल रहा है। खोवाई से हरिना

तक के काम की आज मंजूरी दी गई है, जिस पर दो हजार 487 करोड़ रूपए खर्च होंगे और 25 महीने में इस काम को पूरा किया जाएगा। इस प्रोजेक्ट को पूरा होने पर असम और त्रिपुरा के बीच में परिवहन और सुगम हो जाएगा।

The same method is also used in regional news bulletins.

The role of bulletin editor or in charge is very important in radio. It is the duty and responsibility to make sure that a bulletin runs smoothly and error free. The editor will assign the task of news writing, translation and editing duties to the staffs of the news room. Once the bulletin is prepared, he will make the headlines. Headlines should be simple, interesting, news worthy and easily understandable to all. For example, in a 15 minute bulletin five to six headlines may be given. Another job of the editor is to proper balancing of the news bulletin. That means, in a particular bulletin if there are 3 news of Prime Minister, these news can be read out one after another by the news reader. The editor should also ensure that no unethical news go on air which is against the spirit of the organization. Time is a big factor for radio news. For 6 pm bulletin, the news reader must to be seated in the studio at least 3-4 minutes ahead of the broadcast which means the editor should hand over the news copies to the news reader well on time. The editor should have a good knowledge of recent happenings, command over language etc. Apart from reporter, editor and staffs and news reader, the service of console operator is also very important for radio news. The console operator is responsible of recording and editing of bytes/comments and voice cast of correspondent and also to play them during the bulletin. So, basically it's a team effort that requires input from all concerned people.

If we discuss the source of Akashvani News, the organization has correspondent all across the country. These correspondents are from the Indian Information Service and provide news and updates to the

organization. There is also a local reporter deputed in all the districts headquarters known as PTC or Part Time Correspondent. They are almost the backbone of the organization for collection of news. The Akashvani also takes news from selected news agencies.

A good news reader is a boon for the radio station. The news reader brings live to the news bulleting through his or her voice. The news reader should have a good voice and modulation, knowledge of pronunciation and diction. It is the duty of the news reader to read out the bulletin in a way that the listeners can get the information properly. Like the editor of the bulletin, the news reader should also possess the journalistic qualities like knowledge on current affairs and other relevant information.

Apart from giving news the Akashvani also broadcasts talks and current affairs programs. The News Services Division of Akashvani airs daily and weekly programs based on contemporary issues. Union ministers, Chief Ministers, senior central and state government officials, experts take part in such programs. Spotlight, Surkhiyon Mein, North East Diary, Sports Scan, Public Speak, Country Wide are some of the current affairs programs. The format of these programs is either live or recorded. Now let me discuss a few current affairs and talk programs of the Regional News Unit of Akashvani Guwahati centre. It may be recalled that there are around 45 Regional News Units in the country which broadcast news and talks in local languages. Assam has two such units –Guwahati and Silchar at present. Currently three talks and current affair programs are being broadcast by Guwahati unit. These are weekly programs in nature. Live phone in Dristipat at 8 pm in Saturday, Salantika at 7.45 pm on Sunday and Prasangik at 1.20 pm on every Tuesday. The Dristipat program has crossed over 200 episodes and running

successfully. This talk show provides a platform to the listeners to interact with the prominent guests directly. Ministers, public representatives, government officials, senior journalists, sportspersons, artists etc are the participants in the program. The Regional News Unit in recent time won two national awards for successfully organizing talk shows and generating awareness. In 2021, the Election Commission of India gave the National Media Award for creating voters awareness through various talk shows ahead of the Assam Assembly polls. In the year 2023, the Jal Shakti Ministry gave second best media award to Regional News Unit for creating awareness of water conservation and related activities. The talks and current affairs programs helped in creating mass awareness across the state and country on multiple issues. During the COVID pandemic, Akashavani Guwahati's news unit broadcasted nearly 140 episodes of awareness program named Pratirodh giving information to do's and don'ts to prevent the spread of the deadly in disease. Such current affairs programs also help busting fake news. In the age of social media, fake news is creating menace in the society and as such it is very much important to present the fact in front of the society.

STOP TO CONSIDER

The writing and presentation of radio news is to be simple and easy to understand. The news reporter, editor and news reader must be keep themselves aware of day-today happenings.

CHECK YOUR PROGRESS

QUESTION 1- Write a note on the various news of radio.

QUESTION 2- Write a short note on the role of Editor?

QUESTION 3- What are various talk programs of Akashvani Guwahati?

CHAPTER 5

ROLE AND RESPONSIBILITY OF A RADIO /TV REPORTER

Like any other services, a television or radio journalist should be dedicated to his/her job, honest and hardworking. This is the thumb rule for any journalist. Now if we have to discuss ethics and do's and don'ts, there are several guidelines are available in public domain. For a reporter, it is very important to know the rules and guidelines of courts, government and various concerned autonomous /statutory bodies. Violations of rules and regulations may lead a reporter or his/her organization to legal action.

Dr. Kulveen Trehan, Assistant Professor, University School of Mass Communication, Guru Gobind Singh Indraprastha University, New Delhi wrote in Media Ethics --

Media Ethics and Law are often seen as complimentary to each other. Law represents an ethical minimum whereas ethics represents a standard that exceeds the legal minimum. Laws are imposed on the media by the respective governments whereas ethics are normative guidelines created by the media themselves in order to make it transparent, consistent and accountable. Ethics is closely related to an individual's own moral framework, where decisions are taken keeping both code of conduct and one's own conscious in mind in contrast to law where obedience is mandatory and violations punishable by the court of law.

(https://ebooks.inflibnet.ac.in/lisp20/chapter/media-ethics/)

It may be mentioned here that the Press Council of India, PCI was created in 1966 to preserve the freedom of press and improve the standards of news reporting and media coverage by the newspapers and news agencies. PCI is an Autonomous and statutory body with editors, political appointees and journalists as its members. It formulated a Journalistic Code of Ethics to uphold moral and ethical norms in the practice of news creation and distribution by the individual journalist and the composite news organization.

For an electronic media journalist, some basic and important rules to be followed while reporting and editing any news item. Never provides doubtful or unverified information to the listeners and viewers. There is a saying – if you have doubt, cut it out. Don't give any wrong information to the people. In news media world, credibility is everything. Once you lose credibility, it is difficult to gain.

Another thing that needs to be remembered is – KISS. It means Keep It Straight and Simple. The journalist should file the news in a way that a listener could digest it properly. For that, the sentences and information must be put up in simple and straight manner.

The reporter also should know the basic legal issues. This will help him or her to avoid any legal conflict. For example- if there is a case of abuse or molestation, we shouldn't use name, photo or video of a minor victim. The reporter, editor or producer also should respect the judgment and order of Hon'ble courts, parliament, central and state government or any other statuary bodies. The media organizations should also organize workshop and orientation programs for media people on do's and don'ts.

A media person never interferes in someone's personal life or utmost care should be taken while reporting such news. Someone's private life shouldn't be shown in a manner that creates a bad taste

in society. A responsible media person is a boon for the society and work as the voice for the voiceless people of the society. He or she should be free from any agenda, news should be based on facts and figures and importantly the reporter must play a positive role in nation building while protecting his /her duties and rights.

STOP TO CONSIDER
A radio or tv reporter must be aware of all required legal provisions. He/she must be a hardworking, dedicated and honest reporter to excel in life. He/she also depends on verified information only.
CHECK YOUR PROGREESS
QUESTION 1- Write a note on the role of Press Club of India . QUESTION 2- Why a reporter shouldn't given unverified news ?

SUMMING UP

The radio is an important mass media component. Radio gives us news, entertainment, music, drama, commentary etc. In comparison to other mass media, radio is affordable means of communication. We don't need electricity to tune in to radio. Now days, radio can be listen through mobile phone and App. For the production of any radio programs (drama, music etc) research is required. Radio news, discussion, drama is still able to attract a large chunk of audiences.

QUESTIONS

1) Write a brief note on the growth of radio and television in India.
2) What were the main objectives of the Prasar Bharati Act, 1990?
3) Write a note on the News Services Division of AIR.

4) Mention the various pre-production steps of any radio program.
5) Write a note on the practices to be followed while produce a live phone in talk show?
6) What are qualities of a reporter?
7) Write a note on Drama studio
8) What is the role of News Services Division in broadcasting news and current affairs?
9) Write a note on the prominent current affairs programs of Akashvani.
10) What is source of radio news?
11) What are the basic norms that need to be followed by an electronic media reporter?

REFERENCES

1) www.prasarbharati.com
2) www.newsonair.gov.in
3) www.mib.in
4) *https://ebooks.inflibnet.ac.in/lisp20/chapter/media-ethics/*

Unit: 2

Basics of Electonic News Gathering (ENG), Television News: Basics of Television News& News vs Views

1.1 Introduction to Electronic News Gathering (ENG):

Electronic News Gathering (ENG) plays an important role in modern journalism by facilitating the effective gathering, creation, and distribution of news material through electronic gadgets. The advent of Electronic News Gathering (ENG) has transformed the process of how news is gathered and presented, allowing journalists to quickly respond to unfolding events as they occur. ENG plays a critical role in live reporting, facilitating immediate connections between field reporters and newsrooms through wireless or satellite transmission technologies, also through satellite trucks. This capability enhances the promptness and authenticity of news presentations and also enables viewers to observe developing situations in real time.ENG combines various electronic technologies like portable cameras, microphones, and advanced transmission equipment. These tools help journalists gather, record, edit, and broadcast news quickly and effectively.

The primary objective of Electronic News Gathering is to empower journalists to report news instantaneously from any location, whether it is a busy city street, a remote village or the site of a developing news event. Withportable equipment, ENG allows

reporters to gather news instantly without sacrificing quality or speed. ENG cameras are designed to be easy to carry and use, with features like zoom lenses and image stabilization for capturing clear footage even in tough conditions. Different types of microphones, like shotgun etc, ensure that journalists can record clear audio to go along with their video stories.

The workflow of ENG encompasses multiple interconnected phases: from the initial news collection at the location, to the filming and editing of footage, to the transmission of edited content back to news studios for airing. This seamless workflow enables news entities to provide prompt updates and comprehensive coverage of breaking news to global audiences. Furthermore, ENG methodologies go beyond technical proficiency; they involve the art of narrative construction through visual and auditory mediums. Techniques like shot composition, focus, exposure management, and audio recording are fundamental to ENG, enabling journalists to develop engaging narratives that resonate with viewers.

In this unit,we will explore the essentials of Electronic News Gathering (ENG), shedding light on the fundamental principles, methodologies, and uses that form the basis of this essential aspect of modern journalism.

1.2 Objectives:

This unit is an attempt to understand the Basics of Electronic News Gathering (ENG), understand the key concepts of ENG News reporting through ENG etc. After completing the unit you will be able to –

- Understand the key components of ENG equipment and the workflow involved in gathering, recording, editing, and transmitting news content.
- Understand the skills of camera operations, audio recording, interviewing, and ethical considerations crucial for effective ENG journalism.
- Explore how ENG enables rapid response to breaking news, enhances field reporting, and supports live broadcasts for engaging storytelling in modern journalism.

- To understand the role and components of television news, its production process, and its impact on audiences.

1.3 Key Concepts in ENG:

1) **Definition and Purpose of ENG:** Electronic News Gathering (ENG) is the term used to describe the process of recording and broadcasting news stories through electronic devices and technologies. This innovation significantly transformed the landscape of television news reporting as it allowed journalists to collect and deliver news in a swift and effective manner. ENG utilizes portable cameras, microphones, and various tools to capture, edit, and deliver news material from the field to the newsroom.ENG serves as a vital tool in television news broadcasting, aimed at swiftly acquiring and distributing news content. This method allows journalists to report breaking stories on location, capturing real-time visuals and interviews to enhance the immediacy and relevance of news reporting. The use of ENG technology enables the capture of high-quality visuals, enriching the presentation of news stories with authenticity and depth. Its portability and versatility empower journalists to cover news across diverse locations, promoting on-the-spot reporting without being tied to fixed broadcasting sites. Moreover, ENG streamlines the news gathering process, facilitating efficient content capture, editing, and transmission, resulting in faster turnaround times for news stories. By offering compelling visuals and firsthand accounts, ENG fosters audience engagement and amplifies the impact of news reporting through immersive experiences.

2) **Components of ENG Equipment:**

- Cameras: ENG cameras are portable, equipped with features like zoom lenses and image stabilization. These features enable journalists to capture steady footage in various environments, ranging from crowded urban settings to remote outdoor locations.

- Microphones: ENG utilizes different types of microphones to capture clear and intelligible audio. Shotgun microphones are ideal for capturing directional audio in noisy environments or from a distance, while there are other microphones that can be used for close-up interviews, ensuring high-quality sound recordings.

- Transmission Equipment: ENG relies on wireless transmitters or satellite links to transmit videoand audio signals back to news studios in real-time through satellite trucks. This technology enables journalists to deliver live updates and breaking news coverage efficiently.

3) ENG Workflow:

The Electronic News Gathering (ENG) workflow is a systematic process designed to facilitate efficient news gathering, production, and dissemination. This workflow involves several distinct stages that enable journalists to capture, refine, and transmit news content effectively.

- Gathering: The initial phase of the ENG workflow involves journalists and camera operators traveling to the physical locations where news events are unfolding. This crucial step requires meticulous planning and coordination to ensure timely arrival at the scene. Journalists must identify key locations and individuals relevant to the news story, strategizing optimal vantage points and angles for capturing compelling footage.
- Recording: Once on location, journalists utilize specialized ENG equipment to record both video and audio components of the news story. ENG cameras, equipped with advanced features such as zoom lenses and image stabilization, enable the capture of high-quality visual content under various environmental conditions. Simlilarly, microphones are strategically used to capture clear and intelligible audio, ensuring that essential dialogue and ambient sounds are effectively captured.
- Editing: Following the recording phase, basic editing procedures may commence either on-site or later in the studio environment. This stage involves reviewing the recorded footage to select relevant segments and arrange them in a cohesive narrative structure. Basic editing tasks may include trimming unnecessary content, adjusting audio

levels, and incorporating textual elements such as captions or graphics to enhance viewer comprehension.

- Transmission: Upon completion of the above process, the finalized content is transmitted live through satellite trucks or sent back to the newsroom or production facility for final processing and distribution. Transmission methods typically utilize wireless transmitters or satellite links to swiftly convey video and audio data over long distances. This stage requires seamless integration of technological resources to ensure the efficient delivery of edited content to centralized broadcasting facilities.

Stop To Consider

Electronic News Gathering (ENG) is a crucial aspect of modern journalism, enabling journalists to quickly gather, create, and distribute news material through electronic devices. ENG combines portable cameras, microphones, and advanced transmission equipment to facilitate live reporting, allowing for immediate connections between field reporters and newsrooms. The workflow of ENG involves multiple phases, from news collection to filming, editing, and transmission, enabling prompt updates and comprehensive coverage of breaking news. ENG not only involves technical proficiency but also the art of narrative construction through visual and auditory mediums.

1.4 Barriers in communication

Check your progress

Question 1:What is the primary purpose of Electronic News Gathering (ENG) in modern journalism?

Question 2: Describe three key components of ENG equipment and explain their roles in news reporting.

Question 3: Outline the workflow of ENG, highlighting the distinct stages involved in the process of news gathering and broadcasting.

1.4 Techniques in Electronic News Gathering (ENG)

Electronic News Gathering (ENG) encompasses a range of specialized techniques that enable journalists to capture compelling visual and auditory content while adhering to ethical standards and safety protocols. These techniques are fundamental to effective news reporting and storytelling in the broadcast media industry.

Let us discuss some of the techniques in Electronic News Gathering (ENG) in the following points –

1. **Camera Operations:**

- Shot Composition: ENG professionals employ sophisticated shot composition techniques to visually narrate news stories and evoke emotions in viewers. This includes strategic framing, encompassing establishing shots to set context, close-ups to emphasize details, and creative camera angles such as high and low angles to alter perspective. Camera movements like panning (horizontal movement) and tilting (vertical movement) add dynamic storytelling elements to the footage.
- Focus and Exposure: Proper adjustment of focus and exposure settings is paramount in ENG to capture sharp, well-exposed images that enhance the overall quality of the footage. ENG practitioners meticulously control focus to ensure clarity and depth of field, while exposure adjustments manage brightness levels to prevent overexposure or underexposure of visuals.
- White Balance: Setting the correct white balance is critical for maintaining natural colour representation under different lighting conditions. ENG professionals calibrate white balance settings to neutralize colour casts, ensuring that hues appear true to life in the captured footage and preventing visual distortions that can compromise the authenticity of news events.

2. **Audio Recording:**

- Microphone Types: Understanding microphone types and placements is essential for achieving clear and intelligible audio in diverse reporting scenarios. ENG journalists select

the appropriate microphone based on environmental factors and desired audio quality, utilizing shotgun microphones for directional sound capture and lavaliere microphones for close-up interviews.

- Sound Levels: Monitoring sound levels during recording is crucial to prevent audio distortion or inaudibility. ENG professionals meticulously adjust and monitor audio levels to capture important dialogue and ambient sounds accurately, maintaining optimal audio quality throughout the production process.

3. Interviewing Skills:

- Preparation: Effective ENG journalists conduct comprehensive research on interview subjects, developing informed questions that elicit meaningful responses and contribute to the narrative coherence of news stories.
- Engagement: Building rapport with interviewees is essential for creating a comfortable and conducive atmosphere that fosters candid discussions and authentic reactions. ENG practitioners prioritize interpersonal skills to establish trust and openness, enhancing the quality and authenticity of interview footage.
- Active Listening: Attentive listening during interviews enables ENG journalists to identify interesting points and unexpected insights, allowing for thoughtful follow-up questions that enrich the depth and relevance of the content captured.

4. Safety and Ethics:

- Safety Precautions: ENG professionals prioritize safety by conducting risk assessments at locations, utilizing appropriate protective gear, and adhering to established safety protocols during coverage of potentially hazardous events. This ensures the well-being of journalists and crew members while mitigating operational risks.
- Respect for Privacy: Navigating ethical considerations is paramount in ENG journalism. ENG practitioners obtain informed consent for interviews and respect the privacy of individuals captured in footage, adhering to ethical

standards that uphold journalistic integrity and responsible news reporting.

Stop To Consider

Electronic News Gathering (ENG) is essential in broadcast media, involving specialized techniques for journalists to capture compelling visual and auditory content while adhering to ethical and safety standards. ENG requires proficiency in camera operations for shot composition, focus, exposure, and white balance settings to produce high-quality footage. It also involves mastering audio recording techniques, such as selecting microphones and monitoring sound levels for clear audio. Journalists must excel in interviewing skills, including preparation, engagement, and active listening to enhance the narrative coherence of news stories. Safety and ethics are paramount, with ENG professionals prioritizing safety precautions and respecting privacy to uphold journalistic integrity in news reporting.

Check your progress

Question 4: How do ENG professionals use shot composition techniques to visually narrate news stories?

Question 5:Why is adjusting focus, exposure, and white balance important in ENG for capturing quality footage?

Question 6: What are key considerations for audio recording in ENG journalism?

1.5ENG in News Reporting:

Electronic News Gathering (ENG) plays a pivotal role in modern news reporting, empowering journalists to cover breaking news events, conduct field reporting, and broadcast live updates with immediacy and authenticity.The media should aim to report information in a manner without any bias.

1. **Breaking News Coverage:**ENG enables journalists to respond rapidly to breaking news situations by reaching the scene quickly with portable equipment. This allows them to capture real-time footage and provide immediate updates through live broadcasts or direct video feeds. ENG technology facilitates on-the-spot reporting, ensuring that breaking news is delivered swiftly and accurately to audiences.

2. **Field Reporting:**Field reporting is essential for covering a wide range of stories, including political events, natural disasters, community issues, and human interest stories. ENG equipment enables journalists to venture into diverse environments and capture stories with agility and depth. Whether reporting from remote locations or urban centers, ENG supports journalists in gathering visual and audio content that enriches news coverage and provides firsthand insights into unfolding events.
3. **Live Broadcasts:**ENG technology supports live broadcasts from virtually anywhere with connectivity, enhancing the immediacy and authenticity of news reporting. Journalists can transmit live footage and updates in real-time, allowing audiences to witness events as they happen. This helps in getting viewer engagement and trust in news coverage, as audiences experience breaking news unfold through live broadcasts powered by ENG technology.

Stop To Consider

Electronic News Gathering (ENG) is a vital tool in modern news reporting, enabling journalists to cover breaking news events, conduct field reporting, and broadcast live updates with immediacy and authenticity. ENG allows journalists to respond rapidly to breaking news situations, capturing real-time footage and providing immediate updates through live broadcasts or direct video feeds. Field reporting is enhanced by ENG equipment, enabling journalists to venture into diverse environments and capture stories with agility and depth, enriching news coverage and providing firsthand insights into unfolding events. Live broadcasts powered by ENG technology further enhance the immediacy and authenticity of news reporting,

allowing audiences to witness events as they happen and fostering viewer engagement and trust in news coverage.

Check your progress

Question 7: How does ENG help journalists cover breaking news quickly?

Question 8: Why is field reporting important in journalism, and how does ENG equipment enhance it?

1.6Challenges in Electronic News Gathering(ENG)

- Technical Limitations: ENG operations can face challenges due to issues like poor connectivity or equipment malfunctions. This can impact the quality and timing of news coverage because journalists rely on technology to capture and transmit news material.
- Ethical Concerns: ENG journalists encounter ethical dilemmas when they need to record sensitive content or when their reporting might intrude on people's privacy. They must carefully consider journalistic standards and ethical guidelines to navigate these situations responsibly.
- Physical Demands: ENG work often involves operating in challenging environments such as extreme weather conditions or conflict zones. This requires journalists to be physically resilient and prepared to handle the demands of these environments while reporting the news.

Stop To Consider

Electronic News Gathering (ENG) presents challenges such as technical limitations, ethical concerns, and physical demands for journalists. Issues like poor connectivity or equipment malfunctions can affect news coverage quality and timing. Ethical dilemmas arise when recording sensitive content or intruding on privacy, requiring adherence to journalistic standards. Operating in extreme environments demands physical resilience from ENG journalists.

Check your progress

Question 9: What are the challenges inElectronic News Gathering(ENG)

1.7 Television News: Basics of Television News

Television news is a fundamental component of the media landscape, providing timely information to viewers around the world. Understanding the basics of television news is essential for anyone interested in media studies or journalism. Here we will discuss about the key elements that define television news, its production process, and its impact on audiences.

1. **Purpose of Television News:**The primary purpose of television news is to inform the public about current events and issues. It serves as a vital source of information, offering viewers updates on local, national, and international news. Television news plays a crucial role in democracy by keeping citizens informed about politics, social developments, economics, and cultural happenings.
2. **Key Components of Television News:**
   - News Anchors and Reporters: News anchors and reporters are the face of television news. Anchors present news stories from the studio, while reporters gather information on the ground and conduct interviews.
   - News Stories: Television news covers a wide range of topics, including politics, crime, health, entertainment, and human interest stories. These stories are often condensed into short segments to fit within the broadcast's timeframe.
   - Visuals: Television news relies heavily on visuals to convey information. This includes footage from reporters on location, interviews, graphics, and images related to the news story.
   - Interviews: Interviews with experts, eyewitnesses, and individuals involved in news events provide context and depth to news stories.

3. **Production Process:** Television news production involves several stages:
    - Story Selection: Editors and producers decide which stories to cover based on their relevance, impact, and audience interest.
    - Gathering Information: Reporters gather information through research, interviews, and field reporting.
    - Scripting: Writers and editors create scripts outlining the content of each news segment.
    - Filming and Editing: Visual elements such as footage, graphics, and interviews are filmed and edited into cohesive news stories.
    - Broadcasting: The final news program is broadcasted at scheduled times, reaching audiences through television channels.

4. **Impact on Audiences:**Television news has a significant impact on audiences:
    - Information Dissemination: Television news provides essential information to the public, shaping their understanding of current events.
    - Agenda Setting: By highlighting certain topics, television news influences public discourse and political agendas.
    - Emotional Impact: Television news can evoke emotions such as empathy, outrage, or inspiration, affecting viewers' attitudes and behaviors.
    - Media Literacy: Consumers of television news must develop critical media literacy skills to discern reliable information from misinformation.

Stop To Consider

Television news is a crucial part of the media landscape, delivering timely information to a global audience. Its main goal is to keep the public informed about current events, covering topics ranging from local news to global issues. News anchors and reporters play key roles, presenting stories from studios or reporting from the field through interviews and visuals. The production process involves

story selection, information gathering, scripting, filming, editing, and broadcasting. This process ensures that news is presented accurately and effectively to viewers. Television news impacts audiences by disseminating information, influencing public discussions, evoking emotions, and highlighting the importance of media literacy to navigate news content effectively.

Check your progress

Question 10: What is the primary purpose of television news?

Question 11:What are some key components of television news production?

1.8 News vs Views

1. **News:**News refers to factual reporting of events, developments, or issues that have occurred or are currently unfolding. It aims to inform the public about what is happening in the world around them. News is typically presented in a straightforward manner, focusing on who, what, when, where, why, and how. It is expected to be objective and unbiased, presenting multiple sides of a story without taking a particular stance or expressing personal opinions.In television news, reporters and journalists gather information from various sources such as eyewitness accounts, official statements, data, and expert analysis. This information is then verified to ensure accuracy before being broadcast to the public. News stories often cover a wide range of topics including politics, economics, health, science, entertainment, and more.

2. **Views:** Views, on the other hand, refer to opinions, commentary, or analysis about news events or issues. This could include talk shows, or opinion segments where hosts, guestsexpress their personal perspectives, interpretations, or evaluations of the news. Unlike news reporting, views are subjective and reflect the beliefs, valuesof the individual or organization presenting them.Views can be valuable for

providing context, insight, or alternative viewpoints on complex topics. However, they should be distinguished from straight news reporting because they might be biased towards a particular perspective. Television programs that focus on views often seek to engage audiences, provoke discussion.

Stop To Consider

The distinction between news and views lies in their purpose and presentation. News involves factual reporting of events or issues, aiming to inform objectively without bias. It is based on verified information and covers various topics. Views, however, involve opinions, commentary, or analysis, reflecting subjective perspectives and values. They provide context and alternative viewpoints but may be biased. Television news focuses on reporting, while programs featuring views aim to provoke discussion and engagement.

Check your progress

Question 12: What is the difference between news and views?

1.9 Summing up

Dear Learners, now let's look into the summary of the entire unit, here we learned thatElectronic News Gathering (ENG) is a vital component of modern journalism, revolutionizing news gathering and reporting. ENG utilizes portable electronic gadgets like cameras, microphones, and transmission equipment to swiftly capture, edit, and distribute news content from various locations. This technology empowers journalists to respond quickly to unfolding events, facilitating live reporting and real-time connections between field reporters and newsrooms. Key ENG techniques include shot composition, focus, exposure management, and audio recording, enhancing narrative construction through visual and auditory mediums. ENG workflows encompass gathering, recording, editing, and transmission phases, ensuring prompt and comprehensive news coverage. Despite its benefits,

ENG presents challenges such as technical limitations (like poor connectivity), ethical concerns (regarding privacy and sensitive content), and physical demands (operating in extreme environments). Overcoming these challenges requires adherence to safety protocols, ethical guidelines, and physical resilience. ENG plays a critical role in breaking news coverage, field reporting, and live broadcasts, enriching news presentations with immediacy and authenticity.

1.10 References and Suggested Readings:

1. Herbert Zettl*Television Production Handbook,* Edition-3, 1976
2. Norman J. Medoff, Edward J. Fink & Tom Tanquary *Portable Video ENG & EFP*, Edition-5, 2007
3. Jeremy Orlebar*DigitalTelevison ProductionA handbook*Edition-1, 2002

1.11Model Questions:

1. What role does Electronic News Gathering (ENG) play in modern journalism, and how has it transformed news gathering and reporting?
2. Describe the key components of ENG equipment and their significance in facilitating news coverage.
3. Explain the phases involved in the Electronic News Gathering (ENG) workflow, from news collection to final transmission.
4. How do ENG techniques like shot composition, focus, exposure management, and audio recording contribute to effective news reporting?
5. What are some challenges faced by ENG operations, including technical limitations, ethical concerns, and physical demands?

1.12 Answer to check your progress/ Possible Answers to SAQ

Answer 1: The primary purpose of Electronic News Gathering (ENG) in modern journalism is to facilitate the rapid and effective gathering, creation, and distribution of news content using electronic

devices and technologies. ENG enables journalists to report news instantaneously from any location, whether it's a busy city street or a remote village. By utilizing portable cameras, microphones, and transmission equipment, ENG empowers journalists to capture and transmit news stories swiftly without sacrificing quality or accuracy. This method enhances the immediacy and authenticity of news reporting, allowing journalists to respond quickly to unfolding events and provide real-time updates to global audiences.

Answer 2: There are three key components of ENG equipment which include cameras, microphones, and transmission equipment:

1. Cameras: ENG cameras are portable and equipped with features like zoom lenses and image stabilization, enabling journalists to capture steady and high-quality footage in various environments.
2. Microphones: Different types of microphones, such as shotgun microphones for directional sound capture and lavaliere microphones for close-up interviews, are used to capture clear and intelligible audio.
3. Transmission Equipment: ENG relies on wireless transmitters or satellite links to transmit video and audio signals back to news studios in real-time, facilitating efficient live reporting and breaking news coverage.

Answer 3: The ENG workflow involves several stages:

1. Gathering: Journalists travel to the location of news events, identifying key individuals and locations for coverage.
2. Recording: Utilizing specialized ENG equipment to capture video and audio components of the news story.
3. Editing: Basic editing is performed on-site or later in the studio, selecting and arranging relevant segments.
4. Transmission: Finalized content is transmitted live through satellite trucks or sent back to the newsroom for further processing and distribution, ensuring swift and efficient news delivery.

Answer 4:ENG professionals use shot composition techniques to visually narrate news stories by strategically framing shots, utilizing various angles (e.g., high, low, close-ups) to evoke emotions and emphasize details, and incorporating dynamic camera movements

(e.g., panning, tilting) to enhance storytelling and viewer engagement.

Answer 5: Adjusting focus, exposure, and white balance is crucial in ENG to capture quality footage. Proper focus ensures clarity and depth of field, exposure adjustments manage brightness levels to prevent visual distortions, and setting white balance maintains natural color representation under different lighting conditions, enhancing the authenticity and quality of news visuals.

Answer 6: Key considerations for audio recording in ENG include selecting appropriate microphone types and placements, monitoring sound levels to prevent distortion, and conducting interviews in a conducive atmosphere to capture clear and intelligible dialogue, ensuring high-quality audio for news stories.

Answer 7:ENG enables journalists to respond rapidly to breaking news by using portable equipment to reach the scene quickly, capturing real-time footage, and transmitting live updates efficiently through satellite links or wireless transmitters, ensuring swift and accurate reporting to audiences.

Answer 8: Field reporting is important for covering diverse stories, and ENG equipment enhances it by enabling journalists to capture stories with agility and depth in various environments. ENG supports on-the-spot reporting, providing firsthand insights into unfolding events and enriching news coverage with compelling visuals and audio.

Answer 9: Challenges in ENG include technical limitations (e.g., connectivity issues, equipment malfunctions), ethical concerns related to privacy and sensitive content, and physical demands of operating in challenging environments such as extreme weather conditions or conflict zones. Addressing these challenges requires careful planning, adherence to safety protocols, and ethical considerations to uphold journalistic integrity and responsible news reporting.

Answer 10: The primary purpose of television news is to inform the public about current events and issues, serving as a vital source of information on local, national, and international news. It plays a crucial role in democracy by keeping citizens informed about politics, social developments, economics, and cultural happenings.

Answer 11: The key components of television news production include news anchors and reporters who present and gather information, a variety of news stories covering topics like politics and entertainment, visuals such as footage and graphics to enhance storytelling, and interviews with experts and eyewitnesses that provide depth and context to news stories. The production process involves story selection, information gathering, scripting, filming, editing, and broadcasting to deliver timely news updates to audiences.

Answer 12: The distinction between news and views is fundamental to understanding media content. News involves factual reporting of events and developments, presented in an objective and unbiased manner, with the aim of informing the public about what is happening. It relies on multiple sources such as eyewitness accounts, official statements, and expert analysis, undergoes verification for accuracy, and covers a wide range of topics without personal opinions or commentary. In contrast, views encompass opinions, commentary, or analysis of news events or issues and are inherently subjective, reflecting the beliefs or values of the individual or organization presenting them. Views provide context, insight, or alternative perspectives on news but may be biased towards a specific viewpoint and are designed to engage audiences and provoke discussion.

Unit- 3

Television News Reporting, Editing, Packaging of News

1.1Introduction to Television News Reporting, Editing, Packaging of News:

Television news is a vital component of modern mass communication, playing a significant role in shaping public opinion, informing citizens, and influencing societal trends. The evolution of television news has been marked by significant technological advancements and changes in audience behavior, necessitating a continuous adaptation of techniques and strategies by news professionals. This unit aims to provide an in-depth understanding of the core aspects of television news, focusing on reporting, editing, and packaging.

Television news reporting is not just about conveying facts; it is about storytelling in a way that resonates with viewers, evokes emotions, and prompts action. Reporters must navigate the challenges of immediacy and brevity while maintaining accuracy and fairness. The visual nature of television demands that reporters think beyond words, integrating compelling images and sound to enhance their stories.

Editing is where the raw material gathered by reporters is transformed into a polished product ready for broadcast. This process requires a keen eye for detail, technical skills, and an understanding of narrative flow. Editors play a crucial role in shaping the final story, ensuring that it is coherent, engaging, and aligns with the journalistic standards of the organization.

Packaging refers to the comprehensive process of assembling various elements—video clips, sound bites, graphics, and scripts—into a cohesive whole. Effective news packaging not only delivers the story in an understandable and engaging manner but also maintains the brand identity and style of the news outlet. It involves strategic planning and creative execution to ensure that each news segment is informative and visually appealing.

In this unit, we learn about these components which is essential for anyone aspiring to work in television news. This unit will focus into the specific areas whichwill provide the students with the knowledge and skills needed to succeed in this fastpaced and everevolving field.

1.2 Objectives:

This unit is an attempt to understand Television News Reporting, Editing, Packaging of News. After completing the unit you will be able to –

- Understand the principles and techniques of effective television news reporting, including storytelling, accuracy, and visual integration.
- Develop technical skills and narrative flow for editing news content, transforming raw footage into polished broadcast segments.
- To understand, how to organize news stories to make them clear, interesting, and fit with the style of the news channel.

1.3 Television News Reporting

1. **Fundamentals of Television News Reporting:** Television news reporting involves gathering information, verifying facts, and presenting stories to the public through the medium of television. It requires a clear understanding of the audience, journalistic ethics, and effective storytelling techniques.
   Some of the characteristics of TV News are as follows-

   - Visual Orientation: Television news is characterized by its high visual orientation. Unlike print or radio, TV relies heavily on images to convey information. Reporters and producers must think in terms of how stories will look on screen, considering visuals such as video footage, photographs, graphics, and visual effects. The use of compelling visuals enhances storytelling and engages viewers by appealing to their visual senses.
   - Brevity: Brevity is a key characteristic of TV news due to time constraints. TV reporters and producers must sort out complex information into concise and impactful narratives that can be communicated within limited airtime. This requires prioritizing essential details, focusing on the core message, and presenting information in a clear and straightforward manner. Brevity ensures that news stories are digestible and engaging for viewers with short attention spans.
   - Immediacy: Television news is known for its immediacy, often covering breaking news stories as they unfold. Reporters must respond quickly to rapidly evolving situations, gathering information, conducting interviews, and disseminating updates in real-time. Immediacy demands efficient coordination among news teams and the ability to deliver accurate and timely news to viewers. This characteristic reflects TV news' role in providing up-to-the-minute information that keeps the public informed about current events and developments.

2. **Roles and Responsibilities of a TV Reporter:**

- Research: Research is a foundational aspect of TV reporting. Reporters conduct thorough investigations to gather background information and understand the context of the story they are covering. This includes reviewing documents, analyzing data, and consulting experts to ensure accuracy and depth in their reporting.
- Interviewing: Skillful interviewing is essential for TV reporters to get informative and engaging responses from interviewees. Techniques such as active listening, asking open-ended questions, and building rapport with subjects help reporters gather compelling quotes and insights that enrich their stories.
- Field Reporting: Field reporting involves reporting live from the location of an event or story. This often requires reporters to work under tight deadlines and challenging conditions, such as adverse weather or chaotic scenes. Field reporters must think on their feet, adapt quickly, and provide real-time updates to keep the audience informed.
- Script Writing: TV reporters are responsible for crafting clear, concise scripts that align with the visual content of their stories. Scripts must be easy to understand for viewers and complemented by relevant visuals. Reporters must convey information effectively within the constraints of time allotted for their segment.

3. **News Gathering Techniques:**

- Use of Sources: Building and maintaining a network of reliable sources is crucial for TV reporters. Sources provide valuable information, quotes, and perspectives that enrich news stories. Reporters must cultivate relationships with diverse sources to ensure comprehensive and balanced coverage of events.
- Investigative Techniques: TV reporters employ various investigative methods to uncover stories that may not be readily apparent. This includes analyzing public records, conducting data analysis, and sometimes using undercover reporting to expose hidden truths. Investigative reporting

requires persistence, attention to detail, and adherence to ethical guidelines.

- Technology Utilization: Technology plays a vital role in modern TV news gathering. Reporters utilize cameras, smartphones, drones, and other digital tools to capture high-quality footage and sound. They leverage social media platforms for real-time updates and engage with audiences through multimedia storytelling.

4. Ethical Considerations in TV News Reporting:

- Accuracy: Maintaining accuracy is paramount in TV news reporting. Reporters must verify all information through multiple reliable sources before broadcasting. Fact-checking ensures that news stories are truthful and credible.
- Objectivity: TV reporters strive to maintain neutrality and avoid bias in their reporting. They present multiple perspectives on issues and refrain from imposing personal opinions on the audience. Objectivity creates trust and credibility in journalistic work..
- Fairness: Providing balanced coverage means giving voice to all relevant parties involved in a story. TV reporters seek to represent diverse viewpoints and avoid favoritism or discrimination in their reporting. Fairness promotes inclusivity and transparency in news coverage.
- Privacy: Respecting individuals' privacy is an ethical imperative for TV reporters. They must avoid unnecessary intrusion into private lives or sensitive situations unless there is a compelling public interest. Protecting privacy maintains trust and respect between journalists and their subjects.

Stop To Consider

Television news reporting involves gathering and presenting information to the public through TV. It's focused on visuals, using images and concise storytelling due to time limits. TV reporters need to react quickly to breaking news and conduct research, interviews, and live reporting. They use reliable sources, investigative techniques, and modern technology like cameras and social media. Ethically, accuracy, objectivity, fairness, and privacy are key considerations for TV reporters to maintain credibility and trust with the audience.

Check your progress

Question 1:What are some key characteristics of television news that distinguish it from print or radio journalism?

Question 2: Why is research an essential aspect of television news reporting, and how does it contribute to the accuracy and depth of news stories?.

Question 3: How do TV reporters use technology to enhance their news gathering and storytelling processes?

1.4 Editing in Television News

1. **The Role of Editing in TV News:** Editing is a crucial step in the television news production process. It involves selecting, arranging, and piecing together video clips, sound bites, and other elements to create a coherent and compelling news story. The editor plays a vital role in shaping the final product, ensuring that the story is engaging, informative, and visually appealing.

2. **Objectives of Editing:**

- Clarity: Ensuring the story is clear and understandable is a primary goal of editing. Editors must organize the footage and audio in a way that communicates the story effectively to the audience. This involves cutting out unnecessary parts, emphasizing important information, and structuring the narrative logically.

- Pacing: Maintaining an appropriate rhythm to keep viewers engaged is essential. Pacing involves controlling the speed and flow of the story, ensuring it neither drags on nor rushes too quickly. Proper pacing helps maintain the audience's interest and ensures that key points are given adequate attention.

- Emphasis: Highlighting key points and important details ensures that the audience grasps the main messages of

the story. Editors use various techniques, such as close-ups, slow motion, and repetition, to emphasize critical parts of the narrative and make them stand out.

- Flow: Creating a smooth transition between segments is crucial for a seamless viewing experience. The flow of a news story involves the smooth progression from one scene to the next, avoiding jarring cuts or disjointed segments. Good flow helps maintain the coherence of the story and keeps viewers immersed.

3. Editing Techniques and Tools:

- Linear Editing: This is a traditional method using tape-based systems, where footage is edited in a sequential manner. Linear editing involves playing the original footage and recording the desired segments onto a new tape in the order they will appear. This method requires meticulous planning and is less flexible than modern techniques, as changes often mean starting over.

- Non-linear Editing (NLE): Modern editing uses digital systems, allowing editors to access any part of the footage at any time. Non-linear editing offers greater flexibility, enabling editors to rearrange scenes, experiment with different sequences, and make changes without affecting the rest of the project. Popular NLE software includes Adobe Premiere Pro, Final Cut Pro, and Avid Media Composer.

- Software Tools: Editors use various software tools to enhance their workflow. Popular NLE software includes-

a. Adobe Premiere Pro: Known for its versatility and integration with other Adobe products, making it a favorite among many editors.

b. Final Cut Pro: Widely used in the industry for its user-friendly interface and powerful features.

4. Elements of Editing:

- Video Clips: Selecting the best shots that tell the story visually is the first step. Editors review all the raw footage to identify the most compelling and relevant shots that will visually convey the narrative. This involves considering composition, lighting, and camera angles.
- Sound Bites: Choosing impactful quotes from interviews is crucial for adding authenticity and depth to the story. Sound bites are brief, memorable comments from interviewees that provide insight or emotion. They are carefully selected to support the narrative and highlight key points.
- Voiceovers: Adding narration to provide context and explanation helps guide the audience through the story. Voiceovers can fill in gaps, provide background information, and connect different segments, ensuring the story flows smoothly and is easy to follow.
- Graphics and Text: Incorporating titles, subtitles, and other graphic elements enhances understanding and adds visual interest. Graphics can include charts, maps, and animations that clarify complex information or highlight important data.

5. The Editing Process:

- Transferring Footage: Transferring raw footage into the editing system is the first step. This involves uploading all the video and audio files into the editing software, ensuring that everything is properly formatted and organized for easy access.

- Reviewing and Logging: Watching and organizing footage, making notes on key segments is essential for efficient editing. Editors review all the raw footage, noting important clips, standout moments, and any

potential issues. This step helps in creating a roadmap for the editing process.

- Rough Cut: Creating an initial version of the story, focusing on structure and content. The rough cut is a preliminary edit where the main elements are assembled in the correct order. It prioritizes the narrative structure, ensuring that the story makes sense and flows logically from beginning to end.

- Fine Cut: Refining the rough cut, tightening the narrative, and ensuring smooth transitions. The fine cut involves detailed adjustments to improve pacing, enhance visual and audio quality, and smooth out transitions. Editors work to eliminate any remaining issues and ensure that the story is polished and coherent.

- Final Cut: Polishing the fine cut, adding final touches such as color correction and audio adjustments. The final cut is the last stage where editors make final tweaks, ensuring that the color, sound, and overall presentation are of the highest quality. This version is ready for broadcast.

Stop To Consider

Editing in television news is crucial for creating coherent and engaging stories by selecting, arranging, and combining video clips, sound bites, and other elements. The primary objectives are to ensure clarity, maintain appropriate pacing, emphasize key points, and ensure a smooth flow. Editing techniques include both traditional linear methods and modern non-linear editing (NLE) with software like Adobe Premiere Pro and Final Cut Pro. The editing process involves transferring footage, reviewing and logging clips, creating a rough cut, refining it into a fine cut, and finalizing with color correction and audio adjustments for the final broadcast.

Check your progress

Question 4: What are the primary objectives of editing in television news?

Question 5:What are the key steps in the television news editing process?

Question 6: Name two popular non-linear editing (NLE) software tools used in TV news editing.

1.5Packaging of News:

Packaging of News or News packaging in television involves assembling various elements to create a complete news segment or bulletin. This process strategically combines video, audio, graphics, and scripting to deliver a cohesive and engaging story. Effective packaging is crucial for making news stories compelling and understandable to the audience.

1. **Importance of News Packaging:**

- Enhances Viewer Engagement: Well-packaged news stories are more likely to capture and retain the audience's attention. By presenting information in an engaging manner, news packaging helps keep viewers interested from the beginning to the end of the segment.
- Ensures Consistency: News packaging provides a consistent look and feel across different news segments. This consistency helps establish a recognizable style for the news program, making it easier for viewers to follow and understand the content.

- Facilitates Understanding: Effective news packaging helps viewers comprehend complex stories through a structured presentation. By organizing information logically and using visual aids, news packaging makes it easier for the audience to grasp important details and concepts.

2. **Components of a News Package:**

   - Introduction: The introduction is delivered by the anchor and sets up the story by providing context. It gives viewers an overview of what the story is about and what to expect.

   - Body: The body is the main content of the story. It includes video clips, interviews, and narration. This section provides detailed information, visual evidence, and personal accounts related to the story.

   - Conclusion: The conclusion summarizes the story and provides any additional information or follow-up. It wraps up the segment, reinforcing the main points and offering closure.

3. **Techniques for Effective News Packaging:**

   - Storyboarding: Storyboarding involves planning the visual and narrative flow of the story before actual editing begins. This technique helps organize the sequence of scenes and ensures a coherent structure.

   - Use of B-roll: B-roll footage supplements the primary footage with secondary shots to provide context and visual interest. For example, while a reporter speaks about an event, B-roll might show relevant images or scenes to enhance the narrative.

   - Sound Design: Sound design incorporates background music, sound effects, and ambient sounds to enhance storytelling. These audio elements add depth and emotion to the story, making it more engaging for viewers.

   - Graphic Integration: Graphic integration uses infographics, charts, and animations to explain data and complex information. Graphics help clarify points that might be difficult to convey through video alone.

4. **Best Practices in News Packaging:**

   - Consistency: Maintain a consistent visual and editorial style throughout the package. Consistency ensures that all elements of the news segment align and create a seamless viewing experience.

   - Clarity: Ensure the story is easy to follow, avoiding jargon and complex language. Clarity helps viewers understand the information without confusion, making the news accessible to a wider audience.

   - Engagement: Use compelling visuals and sound to keep the audience engaged. Engaging elements make the story more interesting and memorable, holding the viewer's attention throughout the segment.

   - Ethics: Adhere to journalistic ethics, ensuring the story is fair, accurate, and respectful. Ethical practices build trust with the audience and uphold the integrity of the news organization.

Stop To Consider

News packaging in television combines video, audio, graphics, and scripting to create cohesive and engaging news segments. This process enhances viewer engagement, ensures consistency, and facilitates understanding by presenting information logically and visually. Key components include the introduction, body, and conclusion of the story. Effective techniques involve storyboarding, using B-roll for context, sound design for depth, and graphic integration to explain complex information. Best practices focus on maintaining consistency, ensuring clarity, engaging viewers, and adhering to journalistic ethics for fair and accurate reporting.

Check your progress

Question 7: What elements are combined in news packaging for television segments?

Question 8: How does effective news packaging enhance viewer engagement?

Question 9:What are some key components of a news package in television broadcasting?

1.6 Summing up

Dear Learners, now let's look into the summary of the entire unit, here we learned about Television news reporting, editing, and packaging play crucial roles in delivering impactful and engaging stories to viewers. News reporting on TV is about more than facts; it involves storytelling that resonates with emotions and prompts action while navigating challenges like immediacy and brevity. Editing transforms raw material into polished broadcasts, requiring keen attention to detail and narrative flow. Meanwhile, news packaging combines video, audio, graphics, and scripting to create cohesive segments that capture and retain audience attention. Effective packaging not only enhances engagement but also ensures consistency and facilitates audience understanding.

1.10 References and Suggested Readings:

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1.7 Model Questions:

1. What are some key characteristics of television news that differentiate it from other forms of media?
2. Describe the role of editing in television news production and its objectives.
3. How does effective news packaging enhance viewer engagement and understanding?
4. What are the main components of a news package in television broadcasting?
5. Explain the importance of maintaining consistency in news packaging across different segments of a news program.

1.8 Answer to check your progress/ Possible Answers to SAQ

Answer 1: Television news is distinct because it heavily relies on visuals like pictures and videos to convey stories, which is different from how news is presented in print or on the radio. TV news is also shorter and to the point because it has limited airtime, and it often covers breaking news as it unfolds, providing updates quickly.

Answer 2: Research is crucial in TV news reporting because it helps reporters gather more information about a story, verify facts to ensure they are correct, and gain a deeper understanding of the topic. This contributes to the accuracy and depth of news stories, ensuring that viewers receive reliable and comprehensive information.

Answer 3: TV reporters use various technologies such as cameras, smartphones, and drones to gather news footage and capture compelling visuals. They also utilize social media platforms to share news updates rapidly with the audience. These tools enhance the storytelling process by allowing reporters to show events as they happen and provide engaging content that captures viewers' interest.

Answer 4: The primary objectives of editing in television news are to ensure clarity by organizing the story effectively, maintain a proper pacing to keep viewers engaged, emphasize key points to highlight the main messages, and create a smooth flow between segments for a seamless viewing experience.

Answer 5: The key steps in the television news editing process include transferring raw footage into the editing system, reviewing and logging the footage to identify important clips, creating a rough cut to establish the narrative structure, refining the rough cut into a fine cut by improving pacing and transitions, and finally, polishing the fine cut with color correction and audio adjustments to prepare it for broadcast.

Answer 6: Two popular non-linear editing (NLE) software tools used in TV news editing are Adobe Premiere Pro and Final Cut Pro. These tools allow editors to access any part of the footage at any time, rearrange scenes easily, and make changes without affecting the rest of the project, enhancing flexibility and efficiency in the editing process.

Answer 7: News packaging for television segments involves combining various elements to create a complete and coherent story. This process includes selecting appropriate video clips, impactful sound bites, relevant graphics, and well-written scripts. By integrating these elements strategically, news packages are crafted to deliver information effectively and engage the audience visually and intellectually.

Answer 8: Effective news packaging is essential for enhancing viewer engagement. When news stories are well-packaged, they are more likely to capture and retain the audience's attention throughout the segment. Engaging visuals, clear storytelling, and organized presentation contribute to making the content interesting and comprehensible, thus keeping viewers interested and involved in the news.

Answer 9: The components of a news package in television broadcasting are designed to deliver a comprehensive and engaging story. The introduction sets the stage by providing context and drawing viewers into the topic. The body of the package comprises the main content, featuring video footage, interviews with key individuals, and narration that provides depth and perspective. Finally, the conclusion summarizes the story, reinforcing key points, and often includes follow-up information or calls to action for the audience. This structured approach ensures that the news package is informative, coherent, and impactful.

UNIT-4

NEWS ANCHORING / PRESENTATION, LIVE TALK SHOWS,

ELEMENTS OF NEWS BULLETIN, NEW TRENDS IN TELEVISION NEWS

Unit Structure:

4.1 Introduction

Television is one of the most popular and influential mediums for News transmission. One of the key aspects that makes Television News interesting and engaging is the visual element. While in print media the news is presentedin dry words and with occasional photos, and radio brings news in terms of spoken words; TV presents an immersive experience of audio (for the main news / information) as well as supporting visuals, for the viewers. With visuals adding to the information shared, TV News helps viewers to understand the main information easily and also gather supplementary information, which may add up to expansion of knowledge of a viewer on a particular topic. Due to use of visuals, graphics elements and with advancement of technologies, now a days TV News is being produced in many formats. All these formats aim to engage audience in more effective ways by giving more and more interactive options. Live talk shows are also an extension of TV News for detail discussion and debate on certain topics. For effective production of TV News / Talk Show, it is very important to understand different formats, elements, technicalities, roles and responsibilities of different persons involved in the process, in addition to knowledge of the related fields.

4.2 Objectives

This unit aims to explain nity grities involved in TV News Production. After going through this unit you will be able to-

- *understand* the role of anchor / presenter in TV News as well as Talk Shows
- *understand* how anchors / presenters need to prepare for TV News / Talk Shows
- *explain*different formats for TV News and Talk Shows
- *understand*the technicalities involved in production of TV News / Talk Shows
- *explain* different elements of TV News Bulletins
- *discuss* the process involved in producing TV News Bulletins
- *discuss* the roles and responsibilities of various persons involved in TV News
- *understand* newer trends and approaches emerging in the field of TV News

4.3 News Anchoring / Presentation

Anchoring / presentation is the last but very crucial part of TV News Production process, just before it goes for transmission. Anchors present the news to the viewers which is supported by relevant visuals. In live telecast, news anchoring / presentation happens in 'almost' real time of the transmission. Though there are few seconds of delay till the the audio-visuals reach viewers' Television sets (in the form of signals transmitted through satellites) from the studio, this time gapis negligible. The way in which news is being presented by the anchors have impact on receiption of the paricular news bulletin / programme by the audience. It has been witnessed that many a times, a channel's popularity is mainly attributed to its anchors. People often decides their preferences to watch TV News Channels by the name of anchors. Thus anchors gain popularity, which in turn helps in widening audience base of their respective channels. In India, anchors like Gitanjali Aiyar, Prannoy Roy, Sunit Tandon, Barkha Dutt, Rajdeep Sardesai, Ravish Kumar, Arnab Goswami, Rajat Sharma, Shewta Singh etc. from different channels have gained immense popularity for their own styles of presentating news, and news based shows over the years.

STOP TO CONSIDER

Anchors are seen as the face of the bulletins or sometimes of the channels too. This importance and popularity comes with the burden of huge responsibilities. Anchors also face criticism for the content and editorial policy of their channels. The role of the anchors is very sensitive as they have the responsibility to deliver correct information to the audience, in interesting and engaging way. For this, anchors should have certain qualities as journalists and presenters, and also need to prepare thoroughly.

1.3.1 Role and Responisibilities of an Anchor

An anchor of a TV News bulletin, is the person who directly delivers the information (which is gathered from different sources including reporters, written / edited by editors and packaged and put together for telecast by the producer) in front of the camera. Anchors usually read out news scripts displayed in the teleprompter. Teleprompter is a glass like transparent device that is fixed infront of the camera, to which the anchor looks directly while reading the news. Teleprompter displays the text of the scripts at a particular speed (which can be controlled by the anchors or from the Production Control Room (PCR) as per requirement). When an anchor reads news from the Teleprompter it looks like the anchor is directly speaking to the viewer while sharing the information.

Image 1: Anchor in Studio

Image 2: Teleprompter

In addition to reading news scripts, **anchors need to interact with reporters or other people connected from various places. Anchors need to ask questions and talk to them on relevant issues.** These types of interactions are done through Digital Satellite News Gathering (DSNG) vans, mobile video calling / meeting applications or through telephone calls.

Newsreaders are responsible for delivering correct information to the audience. Factual error, mistakes in pronounciations are strongly criticised by viewers. Mistakes in names of persons, places, numerical values etc. may create confusion and misunderstandings.

In news related Talk Shows / Discussion programmes, anchors need to give backgrounders on the topic, explain points shared by the experts / guests, explain data and information for the viewers. It's the responsibility of an anchor to summerise a discussion on a particular topic and present it in neutral and objective way to the viewers. Anchors are also responsible for putting forward the editorial thoughts on a certain topic in front of the viewers.

As journalistic knowledge and understanding is important for an news anchor, therefore, reporters and editors having expereinces are often engaged by channels as anchors, if they have the oratory and presentation skills.

1.3.2 Quality of a Good Anchor

An anchor needs to have certain qualities and skills to effectively fulfil the responsibilities. Some of the basic and important qualities and skills required to be a good anchor are as follows:

a) **Knowledge and General Awareness:**News anchors must have knowledge about news values and recent developments in various fields. News bulletins contain information about various topics and issues. In order to present these information correctly, an anchor should have knowledge and understanding about socio-political issues, demography, economy, culture, sports, science and technology etc. For discussion programmes or Talk Shows anchors should have detail knowledge about the concerned subject. If any anchor have specialised knowledge on a particular field, he/she may be good in hosting special bulletins or programmes of that field. For example: someone having expertise in Economy and Commerce, may be good at anchoring Business News

Bulletins. Similarly someone may be good at hosting Sports Programme.For general news bulletins, an anchor may not be an expert on every field, but he/she must have basic understanding of important issues and subjects.

b) **Communication Skill:**Anchors must have good communication skill to disseminate information clearly and effectively. It includes good public speaking skill, proper expression and voice modulation. Usually a news bulletin contains different types of news ranging from political to sports, entertainment to business, achievements to accidents etc. So, when a news anchor presents a particluar news he/she must read it with expression suitable for the particular news. Presenting a death news has to be different from presenting a news of a cricket match. Communication skill also means anchor should be capable of engaging viewers to watch the particular news. Anchors should also be able to engage the experts participating in a discussion to share their thoughts. If someone is not speaking, anchors must have to engage him/her to speak on the topic. Anchors should also have the skill to explain difficult issues or newer terms in simple way, so that viewers can understand easily.

c) **Languge Proficiency:** An anchor must have good command over the language in which he/she is presenting the news. Anchors must have good knowledge about grammar, correct spelling, meaning and pronounciations of words. He / she should be fluent in reading and speaking the concerned language. When hosting a talk show, an anchor must be skilled at moderating conversations in that particular language. If an anchor understandsmore than one language, it helps in interacting with people of different language backgrounds during talk shows.

d) **Sense of Presentation**: An anchor should be aware about the format of the news bulletin and accordingly should have suitable presentation sense. Usually, news bulletins are presented in formal manner. Anchors should dress neatly in decent manner. Partywear or casual dressing, heavy ornaments are usually avoided in news bulletins. The overall look of anchor should not distract the viewers from the

information he / she is sharing. Anchor should be aware that the colour of his / her dress, accessories and make-up should be suitable for the set design, colour of background images and visual theme of the bulletin / programme. For example: if green chroma screen (which removes the green colour in final production and replace it with different objects / colour texture) is being used in a studio, an acnhor can't wear green cloths or accessories.

e) **Confidence and Attitude:** Anchors must have confidence of speaking infront of camera and also of engaging other people in what he/she is saying. Anchors should be able to make people understand and believe in the information shared by him / her in the bulletin or programme. However, anchors should be careful that confidence should not look like arrogance. Especially when moderating a discussion, an anchor should be humble to listen everyone's point of views and maintaining a neutral, non-biased stand. Positive attitude of an anchor helps in drawing attention from the viewers.

f) **Technical Awareness:** An anchor should know the technicalities of TV News Production, especially about the studio set-up. He/she should be aware about the camera set-up, camera angle in which he/she is speaking, lighting, microphones etc. He/she should be aware about the teleprompter operation and should be able to adjust the speed of reading as per requirement. He/ she should also understand the commands of the Producer from the Production Control Room and act accordingly. For example: if the producer asks an anchor to increase or reduce the speed, he/she should be able to do it swiftly as the telecast / recording is going on.

g) **Time Management:**Anchors should able to complete a bulletin / programme within the time limit. Therefore, the reading speed is very important. Speed should be suitable for necessary expression, and also optimum for the viewers to process and understand the information. Anchors also need to to adjust the time of his / her scripts according to the duration of supporting visuals. In talk shows, anchors need to be careful that all the guests get time to speak and all the

key points are covered. Anchor need to adjust the time as per the flow of the discussions and involvement of the guests, in order to take it to a conclusion. Sometimes, the anchor will be required to take quick decisions depending on the time left.

h) **Crisis Management:** Anchors should be always ready to resolve crisis during a bulletin or programme. An anchor should be capable enough to tackle any possible technical glitch (eg: audio disturbance) or human error. The anchor should be able to understand the problem and then take decisions accordingly. If the teleprompter stops midway, an anchor should be prepared enough to say the news from his/ her knowledge and understanding. Also, sometimes the anchors may need to speak on a certain topic on sudden notice. If there is a 'breaking news', then anchor may need to speak on the news without even having detail script. During discussion programmes, anchors are often needed to calm down guests arguing on sensitive and controversial issues.

i) **Legal Awareness, Political Correctness, Gender Sensitivity**: An anchor must be sensitive towards using words, gestures, exampales etc. so that it doesn't violates any law, doesn't offend sentiments of any religion, caste, gender etc. Anchors should be aware about various rights the citizens, expecially of children and women. Anchors should be extremely careful about freedom of expression and must not breach the constituional guidelines.

1.3.3 Prepartion for News Anchoring

To perform the responsibilitites effectively, an anchor needs to prepare carefully. Some of the important points regarding preparation for news anchoring are as follows:

a) **Study / Research**: Anchors must study newspapers, megazines, watch other news mediums to stay connected with the happenings and also to understand about trends. They also need to study relevant books, past records, reference materials etc. to prepare on specific subjects. For example: if an anchor needs to host a talk show on Annual Budget, he/she needs to study various financial aspects, previous years budget provisions, proples' expectations from

the budget etc.

b) **Coordination**: Anchors have to interact with the news desk especially with the Editor-in-Charge to understand the content, its importance and key aspects, and also with the concenred news producer regarding visuals, packaging and overall presentation. Anchors also need to interact with field reporters to understand the ground situation, so that he/she can ask proper questions to the reporter during a show or can explain the situation better to the audience.

c) **Cross checking**: Anchors should read the scripts of the bulletins prior to the telecast / recording. Sometimes anchor may not get compelete script earlier and may be asked to read it on spot. But wherever possible anchors should try to read the scripts beforehand. If complete script is not available, then anchors should discuss with the editor or reporter and try to understand the story. Reading scripts or discussing about the story helps the anchor to cross check any possible error. Various facts including names, designation, dates, financial figures etc. can be cross checked if scripts are read by the anchors. If possible, anchors may also check relevant visuals so that he/she can present it in better way.

In addition to these, anchors should also prepare about the dressing, make-up, hair-style etc. as per the programme format.

CheckYourProgress

Question1: What is the importance of anchoring / presentation in TV News Production?

Question2: Mention some of the important qualities of a good news anchor?

Question 3: What are the important aspectsto consider while preparing for news anchoring?

1.4 Live Talk Shows

Talk Show is one of the most popular formats in TV News. **Talk Show is a discussion programme wherein an anchor discusses a certain topic with one or more guests. The guests are usually experts or stakeholders of the subject discussed.** Almost every

TV News channel have its own Talk Shows, especially during the Prime Time. Many of the popular anchors are known by the Talk Shows hosted by them.'The Debate' by Arnab Goswami, 'We The People' by Barkha Dutt, 'Aap Ki Aadalat' by Rajat Sharma, etc. are few examples of popular Talk Shows.

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Talk shows are often seen as platform for creating public opinion. In news bulletins, basic facts and information about a news is given. Usually a news bulletin contains many news items on various topics. But in Talk Shows, usually only one topic or issue is discussed.Experts or stakeholders can explain the backgrounds, analyse data, give different view points, debate on different perspectives regarding the concerned topic. In that way Talk Shows help viewers to understand a subject with in-depth analysis and then to form own opinion.

1.4.1 As per telecast mode, there are two formats of Talk Shows:

a) **Live:** Talk Shows which are are telecast live i.e. on real time usually covers discussion on hard news, recent development on any issue or trending topic. It is because of the immediacy of the topic. For example: a talk show on election result updates, may not be relevant if it is telecast after 1 or 2 days. Political situation, economic decisions, award announcements, millitary mission, sports events etc. are more often discussed in Live Talk Shows. Sometimes, a Talk Show is recorded due to availability of experts or any other reason, but telecast quickly after the recording (without much editing). Such telecast is generally called Deferred Live.

b) **Recorded**: Discussion on soft stories, post event analysis, culutural events, long term development, social reforms etc. are usually done in recorded format. Topics which may not get affected even if it is not telecast immediately, are recorded first and then telecast later. In such programmes, supporting visuals / graphics can be added in the post-production stage. Also, if any expert says something new and important, the channel can get visuals as well as interviews separately and put them in the final programme, to enhance the overall quality. Sometimes, sensitives issues

are also preferred to be recorded than telecast live. It gives an option to the channel to edit unwanted portions, which may create unnecessary controversy or confusion.

1.4.2 As per creative design, a Talk Show can be of multiple formats. The format of any Talk Show can be designed differently from others, in terms of set design, presentation style, method and style of interaction etc. The format is also decided as per topics to be discussed in the show, its main theme and target audience.

a) The most common format is **'Panel Discussion'** – it is a discussion among experts or stakeholders (called panelists) moderated by an anchor. In this format (live or recorded), anchor introduces the topic of discussion and the panelists share their thoughts on the topic. The anchor asks questions related to the topic to the panelists to find out deeper aspects of the concenred topic and also to analyse various information. Sometimes the panelists debate on different point of views. At the end, the anchor tries to summerise the key points of the discussion and also put forward the editorial points of view on the topic.

b) Talk Shows can be done in '**Interview**' format also. Number of interviewer (i.e. anchor) and interviewee may vary. There are few Talk Shows wherein multiple anchors ask questions to onlyguest. In some Talk Shows, audience are also present in the set and ask questions to the guest(s).

c) Talk Shows can be done '**Indoor**' (i.e. set in TV studios) as well as in '**Outdoor**' settings. Especially during elections, TV channels held debates and discussions in public places. Sometimes temporary set up is mounted in the outdoors wherein Talk Shows are produced. During sports events, Talk Shows are also produced in stadiums or playgrounds. In indoor production, set can be designed and the production time can be controlled. In outdoor production, usually the available setting is used (with simple adjustments / modifications) and production time is dependent on weather, natural lighting, ambiencesound etc.

1.4.3 Technicalities: The technical requirements for Talk Show

varies from format to format depending on its design. **The most common technical requirement for a Talk Show is a multi-camera set-up (i.e. more than one camera is used for production)**. News Bulletins can be produced with single camera also, but to produce a Talk Show with single camera is very difficult. As there are more than one person in a Talk Show therefore use of multiple cameras help to show different angles while someone is speaking. If only one camera is used in a Talk Show then the camera movement becomes limited and monotonous. Close-up of anchor and panelists can be easily taken simultaneously in a multi camera set-up. The multi-camera set-up for a Talk Show can be explained with the most commonly used'**3 Camera Set-up**' (for a Talk Show with one anchor and one guests) as shown in Image 3:

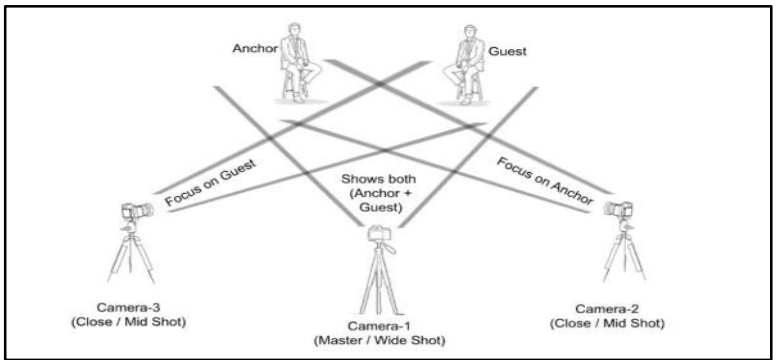

Image 3: Model of basic 3 Camera Set-up

As shown in Image-3, **three cameras are placed in a way that the 1st camera (also called master camera) will show bothAnchor and Guest. The master camera is usually kept at wide angle / long shot. The 2nd and 3rd camera shows the close-up or mid shot of the Anchor and Guest respectively. So, when the anchor is speaking his/her close shot will be shown from Camera-2 and when the Guest is speaking his/her close shot will be shown from Camera-3. In between, shots from Camera-1 will be used to show both of the Anchor and Guest together.** The Camera-2 and 3 are placed in angular direction so that if the anchor or guest looks into their respective cameras, it will look like they are speaking directly to the viewers. The number of cameras can be increased as per number of anchors and guests, and also as per the design of the show. For example, if there is audience present in the set, then one camera can be put up facing the audience to show their reactions. Though there is no rule for minimum or maximum number of

cameras, but use of more cameras gives more angles and thus makes the programme more engaging in terms of visuals.

SelfAskingQuestions
Question 4: Is there any difference between a Talk Show and News Bulletin? If yes, what are the differences?
Question 5: Can a Talk Show help in forming public opinion?
Question 6: What are the different formats of Talk Shows?
Question 7: What is multi-camera set-up and how cameras are generally used in a Talk Show?

1.5 Elements of News Bulletin

'News Bulletin' is a programme where brief accounts of various news items on different topics are presented. The number of news items and topics covered in a bulletin is dependent on the duration of the bulletin. News bulletins are of one hour or half an hour duration in most cases. However, short bulletins of 15 minutes or 5 minutes are also produced. Usually one anchor presents one bulletin. But there can be more anchors also, presenting different segments. A general News Bulletin includes updates on issues ranging from politics to sports, economy to entertainment etc. However, there are special bulletins also on one particular theme / subject. For example, there are Sports bulletins covering news about sports activities and events, there are Cultural bulletins showing news and updates from the cultural field. News bulletins usually present latest and updated information along with supporting visuals. Anchors share the important information; and short inputs from reporters or experts are also included as and when required. Sound bites of concerend persons are also included to support the visuals. However, in news bulletins long discussion or interviews are usually not included. Production of a news bulletin goes through different phases and in each phase a set of people work simultaneously, under the supervision of Editor-in-Charge or Bulletin Editor. The design and contents of a bulletin is mainly determined according to the editorial policy of the concerned channel.

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News Bulletins are hugely popular among television viewers.These offer the opportunity to viewers to get idea about happenings in their sourroundings or world at a large. It presents information

about important events, issues in a consize manner with supporting visuals. A News Bulletin can also be seen as a visual form of a newspaper, where anchor reads out the news and relevant visuals are shown in sync. Like different pages for specialised reporting in newspapers, TV News Bulletins also have different segments like – Politics, International, Sports, Business, Culture etc. However, News Bulletins don't include long discussions, unlike long articles / editorials in newspapers.

1.5.1 News Items / Source: News items mean the content of the bulletins. News is gathered from different sources. Reporters submit stories on various events and happenings. There are announcements or statements made by Government / Private Organisations, important personalities through notices, press release etc. Official websites are also source of news. Now a days news is also gathered from official Social Media handles of concenred person or organisation or authority. Information available from verified and authentic sources can be considered as news depending on its news values such as importance, relevance, proximity, human interest etc. News channels have a input or assignment section, which coordinates with / checks various sources and also assigns duties to reporters to find / get news.

1.5.2 Rundown / Slug: Rundown is the list of order in which news items are included in a bulletin for telecast. Since there are lots of information and news items coming from various sources, selection of items have to be done in order to fit in the bulletin. Making a rundown is arranging the selected news items according to importance and preference. Selection of news items and creation of rundown is done by the Editor-in-Charge / Bulletin Editor according to the editorial policy. All the selected items are included in the rundown with a 'slug' name. 'Slug' is the name of the news item written in a way so that all the concerned people can identify it easily. The source of the news is also mentioned alongwith the slug name. For example, there is a news on Convocation of Gauhati University attended by the Governor, and the news is submitted by a reporter named Kamal, then the Slug in the rundown will be written as –

G.U. Convocation / Governor - Source (Kamal)

Other news items will also be added in the list in similar way, and finally a complete rundown will be prepared before the bulletin is telecast. The headlines are also marked in the rundown. However, if some important news come up (say 'Breaking News') then it may be added in the rundown.

There are different ways of arranging news items in a rundown. Different channels follow different patterns. It depends on the design and format of the bulletin also.

A simple format for a rundown is given below:

Sl. No.	**Slug**	**Source**	**Remarks**
1	Lok Sabha Elections Dates	Press Release	Headline-1
2	Reactions of Political Parties	News Agency	
3	G.U. Convocation / Governor	Kamal	Headline-2
4	Annual Function of City School	Afreen	
5	State Film Awards	Social Media	
6	India-England Test Match	News Agency	Headline-3
7	…….	…….	
8	…….	…….	

Image 4: Format of a simple Rundown

(Kamal and Afreen are name of reporters given as examples)

Usually the most important news item is taken on top of the rundown. The new / immediate stories are also taken up in the order. Today's event will have more importance than yesterday's. However, the nature of event is also important. For example, Lok Sabhaelections dates announced last night will be considered more important than a school's annual function held this morning.

The place of event / happening is also important to decide the rundown. For a channel of Assam, a news about flood in USA, will not be as important as flood in Assam. However, the scale of the event may change the preference. If an incident occurred in a foreign country have significant impact at global level or it affects large public then it may be considered more important than a regular event in the local area. For example, if war breaks out between two foreign countries killing hundreds of people, then it may be considered as more important than a football match held in the Assam.

Sometimes, news items are also arranged as per the theme / segment. For example, in a news bulletin all political stories may be taken in the top, followed by business stories, then stories on culture and ended with news on sports events. It can also be done area wise. A news bulletin may contain different segments – such as National, International, Local etc. For example, an Assamese news channel may decide to make rundown with stories of national importance first, then stories about international affairs, followed by stories of Assam.

1.5.3 Headlines: A 'Headline' is the most important and newsworthy point of a particular news item. In newspapers, each story has one or more headlines. However, in TV News Bulletins, each story may not be considered for headlines. Usually, while making the rundown, few stories (which are considered important) from different segments are selected for headlines. The number of headlines in a bulletin may vary depending on duration and design / format of the bulletin. Headlines are generally presented in the beginning of the bulletin and then the stories are presented in detail. Sometimes the headlines are shown again at the end of the bulletin or sometimes in the middle also. It is done to highlight the importance of the the concerend news items.

Headlines are written by copy editors and checked and approved by Editor-in-Charge / Bulletin Editor.Headlines are written in a way to present the mood and key aspect of the concerned story. Headlines are usually written after the writing of the news script. Headlines are generally written in active voices and in present tense. Unnecessary information and detailing is avoided while writing headlines. Headlines should not be very long, because it is not a detailed story.

In a good headline, what has happened is mentioned rather than what has not happened. Headlines should be catchy (without deviating from facts) so that viewers get interested to see the complete story.

1.5.4 Scripts: Scripts are the main text of the news items to be presented by the Anchor carrying the important and relevant information. Copy editors write the news scripts. There may be DTP operators to assist in typing. Copy editors usually discuss with Editor-in-Charge / Bulletin Editor regarding the focus point of the news. News scripts are usually of two types:

a) O.C. i.e. On Camera – it's the basic TV news script format. It is the script to be read by the Anchor (who appears on camera) while presenting it. Usually it is followed by relevant visuals or packages.
b) V.O. i.e. Voice Over script – it's the script written for a voice over, which will be recorded and played in the bulletin. Voice over scripts are made to make a detailed story within few minutes and also to cover multiple aspects in a short span of time. Usually packages are made with Voice Over.

While writing scripts, basic principles such as accuracy, objectivity, balance, clarity, attributing the source etc. should be followed. The news scripts should not have any factual error and therefore copy editors should cross check and verify the information. The news scripts are written in inverted pyramid style i.e. the most important information should be written first followed by supporting information, background detail etc. Since multiple news items are taken in a bulltin, therefore news scripts should be written in consize manner to avoid unnecessary information. In newspapers, the length of the script is calculated as per space covered. In TV News, scripts are written as per duration which is calculated in seconds. Copy editors should have idea about how many words / sentences should be written for a particular duration of news, may be for 30 seconds or 60 seconds. Also, since TV news carries visuals, therefore script should be written keeping the available visuals and sound bites in mind.

1.5.5 Sound Bites: Sound bites are the spoken words included in

the visual part of the bulletin. These are mainly part of speech / comments / interview of the the concerned personalities / stakeholders. For example: if there is a news about the Education Minister inspecting a High School's facilities and the he/she interacts with media after the inspection, then Visuals and Audio i.e. the sound bite of the Minister speaking to media will be included along with visuals of him / her visiting the school. Similarly sound bites of the students and teachers of the school can also be added. Sound bites of concerned persons help in giving authenticity to the news, rather than the anchor saying all the information.

1.5.6 PTC: Piece To Camera (PTC) is Reporter speaking to the camera directly. Usually a PTC is given by a reporter while doing field reporting. For example: if a reporter is doing news coverage on flood in Assam, he/she may speak in front of the camera about the location from where he/she is reporting along with the details. He/she may give a backgrounder or his/her own take on the issue. PTC can be used in any part of a news story depending on how it is packaged. Mostly, PTC is used in the beginning and / or at the end of the story. If the PTC is given at the end of the news item, then name of the location, cameraperson and channel is mentioned by the reporter at the end. PTC helps to establish the connect to the ground relaity and it also gives authenticity to a news.

1.5.7 Graphics: Graphics are visuals (with or without texts) generated with computers by the Graphics Artists / Designers. The texts used in Graphics are written by Copy Editors. There are different softwares to generate graphics. Graphics are used to give additional and supplementary information along with visuals and sound bites. It also enhances the visual look of a bulletin making it more attractive and engaging. Graphics are used for sharing statistical data, comparisions, weather information etc. Graphics are also used where actual visuals are not available due to logistics or any other issues. For example: dates for Lok Sabha elections are declared. Now to put this information on screen, Graphics Text mentioning the dates and using a representative picture of past election can be generated. Graphics can be of different types – full screen, half screen (where one side of the TV screen will be Graphics and other part will be actual visuals), ticker (shown as small band / bar either on top or lower part of the screen) etc. In TV news, graphics can be put in a video while editing it or can be

directly shown on screen from the PCR with specialised softwares. Every channel design their own templates for graphics with innovative ideas and overall editorial policy.

1.5.8 Visuals / Packages: Visuals cover most duration of any news bulltin. In TV news the visuals are often referred as packages as it includes relevant videos of the news along with Sound Bites, Voice Over,Graphics, PTC etc. in one package. However, each visual may not be a package. For example: in a news on a football match, only a video footage or a graphcis showing the result of the match can be shown. It will not be called a package. However, if a voice over is added to the visuals describing the key moments of the match, along with sound bite of the players and audience then it will be called a package. Sometimes a package can be only visuals with PTC also. A package can be made differently with unique and creative ideas, depending on importance of the news, availability of footage and sound bites. Usually the News Producer consults with the Editor-in-Charge / Bulletin Editor and then make the packages with the video editors. News producer ensures that the visuals / packages are made according to the script and importance is given as per the rundown.

1.5.9 Montage: In TV, a Montage is the audio-visuals graphics of the logo and name of a specific channel or programme, presented with suitable and catchy sound / music. A montage is made for creating brand value and unique identity for the channel or programme.Channel montage depicts the overall identity of the channel, whereas a programme montage depicts the theme of a particular programme. In TV news, every bulletin has its own programme (bulletin) montage. Programme montage is played at the beginning of the concerned programme. Sometimes it is repeated at the end of the programme also. Channel montage is played time to time in between different programmes.

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Question8: What are the important elements of a news bulltin?

Question9: What is a rundown and what are the important aspects to consider for making a rundown?

Question 10: What are the main principles of writing news script and headlines?

Question 11: What is a news package and what are the elements that can be included in a package?

1.6 New Trends in Television News

Television media is evolving everyday with advancement of technology. Newer techniques are being used by the channels to reduce the time gap between event and telecast (i.e. real time update), enhance quality of visuals and style presentation, modes of interaction and engagement etc. Every generation of people engaged in TV media also brings new, innovative and creative ideas which in turn creates newer trends. Also at the age of today's social media, new trend is being created everyday. Some of the comparitively newer and popular trends in TV news are as follows:

a) **Artificial Intelligence:**Artificial Intelligence (AI) is a combination of robust database ofinformations on differrent fields and activities, and computer science to simulate / perform specific tasks. AI is rapidly emerging as very powerful technology which has the potential to change almost all creative process and also human lives in general. In TV media, now AI is being used to design graphics, analyse statistial data etc. AI has the ability to change entire presentation style of a news bulletin. Channels are even creating virtual anchor using AI. For example: an AI generated anchor named 'Lisa' was used by Odisha TV (known as O TV) in 2023. Different experiments are going on about use of AI in news. However, due to the unlimited options for use of AI, utmost care has to be taken to protect privacy and to avoid miscommunication.

b) **Social Media:** These days Social Media platforms are extensively used by TV news channels for gathering information, to share content and promotional activity. As social media platforms like Facebook, X, Instagram etc. has huge number of users, channels are using these platforms to reach out to more audience. Social Media has itself become a media and there are channels which operate only on Social Media platforms. Traditional TV media channels are also using Social Media as an extension of its already existing resources. For gathering news, social media has become a very useful tool. Almost every organistion or important personalities have their own social media accounts, wherein important announcements are made and informations are

shared. News channels monitor these accounts and take required information directly.Now a days 'Breaking News' is happening on Social Media platforms on real time. Channels are also using video sharing platforms like YouTube for Live Streaming of their programmes. News channels are live streaming important events directly on their YouTube channels. WhatApp channels are also being used by news channels to share their content. In these ways, channels are reaching out to more audience and also to locations beyond their regular territories. For the viewers also, social media has given more options to get news. Now a person in Assamcan easily watch content of a channel from any other country by following its social media accounts.

c) **Video Calling:** It's not a very new technique. But with emergence of new platforms like Zoom, Google Meet etc. and also with easier, cheaper and faster internet connectivity, this is being widely used now a days. This is basically used to interact with reporters / experts during a bulletin. As it can be done with basic smartphones and home computers, thereofore it has become very much easier to take live inputs from a person from any place around the globe.

d) **Hologram / 3D Animation :** Hologram is a technique to give immersive experience of virtual reality to viewers without the need of any special device like headphone or glasses. It has the potential to create realistic 3D visuals with the use of animation. An anchor standing in a studio can be shown standing at a railway station on real time, by using hologram technique. 3D animations are also extensively to showcase almost real images about scientific mission, sports events etc. During election coverages also, news channels widely use hologram and 3D animations to present results, comparision between parties and politicians etc.

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Question 12: Mention some of the new trends in TV News?

Question 13: How social media is used in TV News?

1.7 Summingup

Television news production is a complex process which involves multiple elements and large number of people. New technologies have made many of its aspects easier. But at the same time it has also created new challenges (in terms of audience expectations and competitions with other channels). However, TV News is still considered as one of the most popular media even after rapid emergence of new media platforms. It has been evolving with time by adapting to new technolgies and ideas. Over the years, it has been playing crucial role in disseminating information, presenting news on different fields covering wide range of issues in comparatively quick time and visually engaging manner, giving scope for debate and discuss on issues, showing different perspectives on same issue and thus helping in forming public opinion.

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1.1 ModelQuestions

Very Short Questions

i) What is a Teleprompter?

ii) Whats is a Sound Bite in TV news?

iii) Write full form of O.C. and V.O. in the context of TV News

Short Answer Questions

i) Describe the role and responsibilities of a TV news anchor.
ii) Write briefly about different formats of Talk Shows.
iii) What is the importance of television news bulletin?
iv) What are the main differences between Talk Show and News Bulletin?
v) Explain the basic principles of writing TV News script.
vi) How Social Media can be used in TV News production?
vii) Write short notes on –
    - Panel Discussion
    - News Package
    - Piece ot Camera (PTC)
    - Television Montage

Long Answer Questions

i) Explain the important skills or qualities required by TV news anchors.
ii) What is a multi camera set-up? Explain its use in Talk Show with example of a model.
iii) Describe the TV news production process along with the important elements of news bulletin.
iv) What is a rundown and what are the aspects to consider for making rundown? Explain the process of making a rundown.

1.2 Answertocheckyourprogress/PossibleAnswerstoSAQ

Answer to Question 1: Anchors play the crucial role of presenting information in correct and engaging way to the viewers. The way in which news is being presented by the anchors have impact on receiption of the paricular news bulletin / programme by the audience. They are considered face of the channel as people often decides their preferences to watch TV News Channels by the name of anchors. Sometimes anchors also face criticism for the content and editorial policy of their channels. Therefore anchors role is very sensitive as they have the responsibility to deliver correct information to the audience, in interesting and engaging way.

Answer to Question 2: An anchor needs to have certain qualities and skills to effectively fulfil the responsibilities. An anchor should have good knowledge and general awareness about news and recent

developments in various fields, good communication skill, proficiency in concerned language, sense of presentation as per programme format, confidence, positive attitude, awareness about the technical aspects of TV news production, skill for time and crisis management etc. He/she should not any law and should be careful that sentiments of any religion, caste, gender etc. is not offended.

Answer to Question 3: Anchors must study newspapers, megazines, watch other news mediums to stay connected with the happenings and also to understand about trends. He / she should coordinate with other persons involved in the news production. Anchors should try to cross check various facts and information while preparaing. Anchors should also prepare about the dressing, make-up, hair-style etc. as per the programme format.

Answer to Question 4: Yes, there are differences between Talk Show and News Bulletin. In Talk Show anchor discusses a particular topic / issue with one or more experts or stakeholders. But in news bulletin, anchor directly present information on various topics, events etc. In Talk shows different people puts forward their views on a particular topic and analyse various related information. Usually in news bulletins, detail analysis is not done and only basic information is provided.

Answer to Question 5: Talk shows are often seen as platform for creating public opinion. In news bulletins, basic facts and information about a news is given. Usually a news bulletin contains many news items on various topics. But in Talk Shows, usually only one topic or issue is discussed. Experts or stakeholders can explain the backgrounds, analyse data, give different view points, debate on different perspectives regarding the concerned topic. In that way Talk Shows help viewers to understand a subject with in-depth analysis and then to form own opinion.

Answer to Question 6: As per telecast mode, a Talk Show can be Live or Recorded. As per creative design, a Talk Show can be of multiple formats such as Panel Discussion, Interview etc. As per location, a Talk Show can be done Indoor or Outdoor setting. The format of any Talk Show can be designed differently in terms of set design, presentation style, method and style of interaction etc. The format is also decided as per topic, theme and target audience.

Answer to Question 7: Multi-camera set-up means use of more than one camera for production. As there are more than one person

in a Talk Show therefore use of multiple cameras help to show different angles while someone is speaking. If a talk show with one anchor and one guest is produced using 3 cameras, then the 1st camera placed at wide angle / long shot will show both Anchor and Guest. The 2nd and 3rd camera shows the close-up or mid shot of the Anchor and Guest respectively. So, when the anchor is speaking his/her close shot will be shown from Camera-2 and when the Guest is speaking his/her close shot will be shown from Camera-3. In between, shots from Camera-1 will be used to show both of the Anchor and Guest together. The number of cameras can be increased as per number of anchors and guests, and also as per the design of the show.

Answer to Question 8: Some of the important elements of a News Bulletin are – News Items, Rundown, Headlines, Scripts, Voice Over, Sound Bites, Piece to Camera, Graphics, Visuals / Packages and Montage.

Answer to Question 9: Rundown is the list of order in which news items are included in a bulletin for telecast. Making a rundown is arranging the selected news items according to importance and preference. Usually the most important news item is taken on top of the rundown. The new / immediate stories are also taken up in the order. The importance and preference of news for inclusion in the rundown is also decided by nature of event, its scale, location etc. Sometimes, news items are also arranged in the rundown as per the theme or segment.

Answer to Question 10: News scripts and headlines should be written with accuracy, objectivity, balance and clarity. The news scripts are written in inverted pyramid style i.e. the most important information should be written first followed by supporting information, background detail etc. TV News scripts should be written keeping the available visuals and sound bites in mind. Headlines are written in a way to present the mood and key aspect of the concerned story. Headlines are generally written in active voices and in present tense. Unnecessary information and detailing is avoided while writing headlines. Headlines should be catchy (without deviating from facts) so that viewers get interested to see the complete story. Both news scripts and headlines should be written keeping the designated time in consideration.

Answer to Question 11: In TV news the visuals are often referred

as packages as it includes relevant videos of the news along with Sound Bites, Voice Over, Graphics, PTC etc. in one package. Each visual may not be a package. But if voice over is added to the visuals describing key points and then other elements such as Graphics, Sound Bites etc. are also included then it will be called a package. Sometimes a package can be only visuals with PTC also. A package can be made differently with unique and creative ideas, depending on importance of the news, availability of footage and sound bites.

Answer to Question 12: Television is a ever evolving media and with advancement of technology, newer techniques are being used by the channels for quicker updates, enhance quality of visuals and style presentation, modes of interaction and engagement etc. Some of the new trends emerging due to use of new technologies are – use of Artifical Intelligence, extension to Social Media platforms, easier use of Video Calling facilities through mobile platforms, use of Hologram, Virtual Reality tools, 3D Graphics etc.

Answer to Question 13: Social Media platforms are extensively used by TV news channels for promotional activity, gathering information and also to share own content. Traditional TV media channels are also using Social Media as an extension of its already existing resources. News channels are using Social Media to gather news from official accounts of Government / Private organisations, important personalities etc. Channels are also using video sharing platforms like YouTube for Live Streaming of their programmes to reach out to larger audience. WhatApp channels are also being used by news channels to share their content.

Unit:1

Duties and Responsibilities of Media Persons; Do's and Don'ts of Electronic Media Production

1.1 Introduction

The audio visual media is extremely powerful since it attracts all the senses like that of the hearing and visual. The audio visual medium of communication first derived its name from the Greek word *tele* which means at a distance. Television first started in the year 1926, January 26 by John Logie Baird and later with the adaptation and modernization of technology from a bulky set to a sleek smart television, it made inroads for electronic media in people's mind. With the gradual evolution of electronic media into films and other mediums production process has taken a massive change and with that came the roles and responsibilities of the new media personals. In this unit, the learner will be able to understand about television production and the people involved in the production along with the roles and responsibility of the new media.

1.2 Objectives

This unit is an attempt to analyse the ideas news. After going through this unit you will

be able to-

- Discuss about television production
- Define the roles of a script
- Discuss the role of the anchor
- Discuss the responsibilities of an anchor

1.3 Television production:

Television production requires attracting the attention of the people. The responsibility does not end with locking the attention; rather it begins with setting the right tone and understanding the impact that poor and irresponsible production can have on the people.

The primary objective of a television shows does not rest solely on the quality of the technology. There are other factors which are responsible for this. Noteworthy among them are:

Script: The script is the soul of a television production. The script determines the narration. In case of news, it is the script that can inform the people and in case of an interview, the script makes way for more information. A script needs to be well researched and a crisp and good script is the core of any news production.

Anchor: The anchor is the one that leads the ways in a television program. News anchors are supposed to be sharp, well informed and should also have presence of mind. In case of news, the anchors job is maintain neutrality and create room for healthy dialogue. In an

interview the listening skills of an anchor, really brings out unknown facets of the interviewee.

1. STOP TO CONSIDER

Television production has a number of do's and don'ts which needs to be considered in order to make the content attractive and keep away from distraction. Primary elements among them are the script, the anchor and the content.

Check your progress

Question 1: Discuss the origin of television?

Question 2: Discuss the role of the script

Question 3: Discuss the significance of an anchor

1.4 Essentials of a script:

As mentioned earlier, the script is extremely crucial in television production, since it sets the mood of the entire program. However there are certain elements that need to be taken into account while writing a script. They are given below:

Crisp: Attention today is the new currency. To attract the attention and sustain it, the script needs to be crisp and to the point. Mentioning of unnecessary details should be avoided.

Precise: The information that is available in the script should be precise. In case of any program the script should avoid ambiguity. Ambiguity in news can lead to confusion, in live program, it leads to

loss of attention and in case of interview, it confuses the interviewee.

Factual: It is extremely crucial for the facts to be correct. Names of people, places and events should be clear and there should be no errors, especially in case of news and cross checking of facts are crucial in the current state of fake news.

Descriptive: In case of a script of a news, the news has to be descriptive and the main news has to be delivered. Descriptive implies the use of good narrative . While news can be crisp, any other content in television should be descriptive in words or through visuals.

Research based: A news script requires that there needs to be a substantial amount of research. News cannot take place without research and even interviews and live programs need research to be able to connect with the audience at large.

1.5 Essential qualities of an Anchor:

Just like the name suggests the anchor is the main person leading the programme from the forefront. The script, the content all are prepared in the backdrop but it is the anchor who represents the face of the network. Hence it is extremely crucial for the anchor to understand the role that he or she plays. Some of the roles are stated below:

Language: Perfect language, syntax, pronunciation, tone, and narrative despite the anchor or reporter's extreme fatigue or stress are crucial. This makes the anchor more attractive and appealing to the viewers.

Clear names: People are very sensitive to their names and it is extremely pertinent to mention correct names of people and places

Presence of mind: The capacity to expand or compress speech as needed, to recognize when a story has to be recapped or refreshed, and to estimate the number of words needed to fill a minute while waiting for a satellite window, live stream, or interviewee—all without even consulting a clock.

Updated: A comprehension of topics, names, location, history, and the capacity to contextualize all of these for viewers. It results from the journalist's dedication to learning about the news.

Sensitivity: Sensitivity to moral landmines that frequently strew live breaking news: unverified information, graphic footage, potentially was frightening language, threats to public safety or security, or language that exacerbates the suffering of already traumatized victims and those close to them.

Body language: The body language of an anchor gives good vibes to the viewers. Knowing when to move the hands, nodding head at the right time, using good gestures and an eye to eye contact with the viewers and the interviewees is a crucial element of a news anchor.

Nonverbal communication is just as important to effective anchoring as spoken communication. Make eye contact with various audience members, keep a friendly and open stance, and employ expressive movements that enhance your discourse. Your body language strengthens the connection you have with the audience and gives your message more depth, which increases their level of involvement and engagement.

Adaptability and Flexibility: The superpower of an anchor is its flexibility. Unexpected twists can be made by events, technological

issues can occur, or audience dynamics can shift. It is essential to be flexible and quick to respond to situations. Accept improvisation and modify your strategy in response to the changing circumstances. Your ability to change course quickly adds to the event's overall success and flow.

Enthusiastic and energetic: Your energy and enthusiasm are contagious, and they can shape the entire atmosphere of the event. Express genuine excitement about the event's content, speakers, and activities. Your enthusiasm ignites a sense of anticipation and involvement in the audience, making them more receptive to the event's message.

Composure: Remain composed and make backup plans in case of last-minute modifications or technical difficulties. Your ability to overcome obstacles with ease shows professionalism and improves the audience's experience as a whole.

STOP TO CONSIDER

The role of the script and the anchor is phenomenal. It takes into account the brevity, quality and clarity of the script as well as the innovation, attraction and management of the anchor.

Check your progress

Question 1: why is being factual, crucial for a script?

Question 2: What is the significance of language and body language of an anchor?

Question 3: Why is sensitivity important for an anchor?

1.6. Responsibilities of an anchor:

Significance of sound:

Voice and sound are usually the most significant areas for a news anchor. While voice modulation is usually adopted to suit the news content, there are different elements which work in uplifting the quality of the sound. Some of them are:

Pause: Sound and silence are together effective in making a strong content. In order to avoid the content from being monologues, pausing at theright time could create room for more clarity.

Drama: Although the element of drama is usually not recommended for a news anchor, a slight change in the tonality can draw the attention of the viewers or listeners. For instance in case of a festivity the anchor can afford to sound lively while in case of a tragedy a solemn voice would make more sense.

Regulating speed: The content of news needs to fit within the allotted time while at the same time too much pace can lead to overlapping of words and missing some too, here maintain the speed is both the role of the news reader as well as the teleprompter. Too slow a speed can also lead to impatience among the listeners

Maintaining the pitch: The rate of vibration of our vocal folds is referred to as pitch. Higher rate of vibration means higher pitch and lower rate of vibration means lower pitch. A level pitch is something that needs to be taken into account.

Power: The voice of an anchor should resonate with power. An intensity of the voice is crucial which requires the anchor to speak from his/her abdomen and create the depth in the voice.

Stress: Stress and intonation are some of the key factors that are important while anchoring. This requires the anchor to stress on crucial words or names while narrating the news.

Fact checking: Assist with research and fact-checking of news stories as needed.

Research done: Collaborate with other news anchors and team members to ensure necessary stories are broadcast

1.7 Different responsibilities of an anchor for different programs:

Anchoring style is influenced by the program's format and topic matter. This section will address appropriate presenting styles for several categories of television news programs

Live : It occurs when a camera is positioned to capture events as they happen and the reporter goes "live" from the scene. Live news is typically only covered for major stories. The reporter responds to inquiries from the news anchor regarding updates. Here the anchor has to exercise the presence of mind and be flexible to change the manner of questioning as and when required

Package: A news package consists of voiceovers, sound bites, graphics, and PTC in an audio-visual format. After reading an introduction, the news anchor plays a pre-recorded item. Although a package is typically created for the most significant news, it can also be used in conjunction with a "live" report and has various angle to one story.

Anchor-Byte: In this format, the news is read by the anchor, together with the bytes of the relevant person or people. This format includes an anchor link and visuals.The news is read by the anchor while the story's images are shown. This format is typically utilized

for short stories.This structure is frequently seen in quick/fast news bulletins.

Anchor-Graphics: This is comparable to Anchor-Visual, but instead of using video footage, graphics are used. In the absence of visuals, this format is employed. The news is read by the anchor here, and images are displayed.

1.8. STOP TO CONSIDER

An anchor has a fair amount of responsibilities in preparing news, while sound plays a very crucial role, the way the news anchor presents the story also varies as per the format.

Check your progress

Question 1: How significant is sound for an anchor?

Question 2: What is the significance of drama for a news anchor?

Question 3: What is an anchor byte and graphic byte?

1.9. Summary

There are certain dos and don'ts in television production that must be taken into account in order to provide engaging material and prevent distractions. The content, the anchor, and the script are the three main components.

The anchor and the script play amazing roles. It considers the anchor's creativity, appeal, and management in addition to the script's succinctness, quality, and clarity.

While sound quality is undoubtedly important, a news anchor's preparation duties also include presenting the information in a way that is appropriate for the format.

1.10 Model Questions

1.11 Answer to check your progress/Possible Answers to SAQ

1. Check your progress

a. Television first started in the year 1926, January 26 by John Logie Baird and later with the adaptation and modernization of technology from a bulky set to a sleek smart television, it made inroads for electronic media in people's mind.

b. The script is the soul of a television production. The script determines the narration. In case of news, it is the script that can inform the people and in case of an interview, the script makes way for more information. A script needs to be well researched and a crisp and good script is the core of any news production.

c. The anchor is the one that leads the ways in a television program. News anchors are supposed to be sharp, well informed and should also have presence of mind. In case of news, the anchors job is maintain neutrality and create room for healthy dialogue. In an interview the listening skills of an anchor, really brings out unknown facets of the interviewee.

2. Check Your Progress

a. It is extremely crucial for the facts to be correct. Names of people, places and events should be clear and there should be no errors, especially in case of news and cross checking of facts are crucial in the current state of fake news.

b. Perfect language, syntax, pronunciation, tone, and narrative despite the anchor or reporter's extreme fatigue or stress are crucial. This makes the anchor more attractive and appealing to the viewers. The body language of an anchor gives good vibes to the viewers. Knowing when to move the hands, nodding head at the right time, using good gestures and an eye to eye contact with the viewers and the interviewees is a crucial element of a news anchor.

c. Sensitivity to moral landmines that frequently strew live breaking news: unverified information, graphic footage, potentially was frightening language, threats to public safety or security, or language that exacerbates the suffering of already traumatized victims and those close to them.

3. Check your progress

a. Voice and sound are usually the most significant areas for a news anchor. While voice modulation is usually adopted to suit the news content, there are different elements which work in uplifting the quality of the sound

b. Although the element of drama is usually not recommended for a news anchor, a slight change in the tonality can draw the attention of the viewers or listeners. For instance in case of a festivity the anchor can afford to sound lively while in case of a tragedy a solemn voice would make more sense.

c. Anchor-Byte: In this format, the news is read by the anchor, together with the bytes of the relevant person or people. This format includes an anchor link and visuals.The news is read by the anchor while the story's images are shown. This format is typically utilized for short stories.This structure is frequently seen in quick/fast news bulletins.

Anchor-Graphics: This is comparable to Anchor-Visual, but instead of using video footage, graphics are used. In the absence of visuals, this format is employed. The news is read by the anchor here, and images are displayed

Unit: 2

Convergence with new media and its impact

Unit Structure:

2.1 Introduction

We have come a long way from the development of non-verbal form of communication to the use of artificial intelligence in disseminating information to the mass society. A lot can be attributed to the development of new media, which is also popularly referred to as digital media. This does not however mean that the essence of traditional forms of media like print and folk media has diminished. Rather, different organizations have started making use of both the traditional and the new media in order to provide a viable means of communication to the mass audience. Interactivity and automation are two very important aspects of digital media. The ability to interact with media content and obtain unique, personalized or localized information is a powerful force in changing how the public uses and perceives media. By creating various programmes and automated functions such as search tools, collaborative filtering and updating content, computers have drastically reduced the amount of work humans do. New media has been playing an important role in the society ranging from surveillance to entertainment function. Digitization and online media are changing and will continue to change the media landscape in the society.

2.2 Objectives

This unit is an attempt to look into the meaning of convergence with special reference to new media. After going through this unit, you will be able to –

- *explain* the meaning of convergence and media convergence
- *discuss* the importance of new media convergence

2.3 Concept of Convergence and media convergence

Media, over the years, have undergone drastic changes as far as functioning as a medium of communication. The changes that we observe can be attributed to the development of information and communication technology. From non-verbal way of communication that was prevalent during the prehistoric time period to the present online mode of communication system, the scenario has changed for the better. Earlier, the different forms of communication system were diverged. But now, with the incorporation of ICT within the folds of communication system, the mode of communication has changed. People no longer have to wait for hours at stretch to get reply to their messages that are sent in the form of letters. Both synchronous and asynchronous technologies have made a deep impact on our day to day conversation. Imagine yourself being stranded in a deserted island with practically no human contact and with no electronic gadgets. Will it be possible on your part to survive without any form of communication? Maybe for a few days, you might be able to survive by wandering about on the island and feasting in the food available on the island. However, in the long run, it might be difficult to do so. Herein, lies the importance of communication. The invention of the Gutenberg's printing press was the turning point in the development of mass communication and media technology. Slowly things began to converge, meaning different media platforms were brought together with the help of ICT. In other words, "Convergence" generally refers to the coming together or merging of different elements, ideas, technologies, or industries to form a unified whole or to achieve a common goal. Convergence can have different meanings in different contexts as given below -

Technological Convergence: From the term itself, one can understand that this refers to the merging of different technologies, functionalities, or features into a single device or platform. For

example, smartphones are a result of technological convergence which makes use of the different features of phones, cameras, computers, and more into one device.

Media Convergence: Media convergence refers to the merging of different forms of media with the help of technology. Media convergence often results in the creation of multimedia content that can be accessed across different platforms.

Industry Convergence: In this type of convergence, distinct industries with separate products, services, or business models start to overlap or merge due to changes in technology, consumer behavior, or market dynamics. For instance, the convergence of telecommunications and entertainment industries has led to the rise of companies offering bundled services like internet, TV, and phone packages.

Cultural Convergence: In case of cultural convergence, there is blending or mixing of cultural elements, practices, or values from different regions or groups. Cultural convergence can lead to the adoption of common languages, customs, or trends across diverse populations.

In essence, convergence implies a process of integration or unification, often driven by advances in technology, changes in consumer behavior, or shifts in market dynamics. It can lead to greater efficiency, innovation, and synergy, but it may also present challenges related to competition, regulation, and cultural identity.

STOP TO CONSIDER

Convergence" generally refers to the coming together or merging of different elements, ideas, technologies, or industries to form a unified whole or to achieve a common goal.

Now , let us move on to the concept of media convergence.

Media convergence refers to the merging of various forms of media content, distribution platforms, and technologies into a single integrated system. This phenomenon is driven primarily by advances in digital technology, which have facilitated the sharing,

distribution, and consumption of content across multiple platforms and devices. Today, a lot of effort is given to link different forms of media into converged media operations. Technology drives these changes at one end while increased profit motivates the changes from the other. The internet alone is not responsible for the explosion in world communication. Two things have made the Internet's current abilities more viable : digital capacity and more sophisticated networking technology.

Let us look at some of the basic featuresof media convergence :

Content Integration: Content from different media sources is combined and repurposed across various platforms. For example, a news story might be reported on television, published in a newspaper, shared on social media, and later adapted into a podcast or video format.

Platform Integration: Media companies makes use of different multiple platforms to distribute their content, including websites, mobile apps, social media platforms, streaming services, and traditional broadcast channels. This allows audiences to access content on their preferred devices and platforms.

Technological Integration: Advances in digital technology leads to seamless integration and distribution of media content across different platforms and devices. For example, smartphones and tablets can stream video content from the internet, access social media platforms, and display digital newspapers and magazines.

Audience Participation: Media convergence encourages the audience to participate and interact through social media, user-generated content, and interactive features. Audiences can engage with content creators, share their own content, and participate in online discussions and communities.

Business Integration:presents Media convergence blurs the line between different sectors of the media industry, leading to consolidation and integration among media companies. This includes mergers and acquisitions, partnerships, and collaborations to leverage each other's strengths and resources.

Overall, media convergence represents a transformation in the way media content is created, distributed, and consumed. It offers new opportunities for content creators, advertisers, and audiences, but

also challenges related to copyright, distribution rights, regulatory issues, and the monetization of digital content.

Check Your Progress

Question 1 .What do you mean by media convergence?

_____
_____
_____

2.4 Convergence with new media and its impact

New media is a very important form of media. There are five basic distinguishing aspects of new media- digitality, interactivity, hypertexuality, dispersal and virtuality. New media emerged in the later part of the 20th century to include the merger of traditional media such as films, images, music, spoken and written word, with the interactive power of computer also called convergence, computer-enabled consumer devices and most importantly the internet. One of the basic features of new media is that it holds out a possibility of on-demand access to content any time, anytime, on any digital device, as well as interactive user feedback, creative participation and community formation around the media content.The last decade has seen an increase in the digitalization of the media industry. The World Economic Forum says that this digitalization has been driven by changing consumer behaviour and expectations, especially among younger generations who demand instant access to content, anytime, anywhere.With the passage of time, the line between the roles of the producer and consumer of media contents seems to be blurring due to the emergence of new information technologies. Deuze (2004) proposed to analytically structure convergence into four dimensions that cover different phases of the communication process. These dimensions are:

- Integrated production
- Multi-skilled professionals
- Multiplatform delivery
- Active audience

In the first dimension, the most relevant signs of convergence are to be found in the reformation of newsrooms which is also linked to the redefinition of professional roles, technical innovation and the development of innovative news formats and languages. In the second dimension, the focus is on multi-skilled professionals. A multi-skilled journalist would be able to produce news for any medium using any required technological tool in every step of the production process.The advancement of technology especially in the areas of mobile communications and data-enabled digital television systems has enlarged the range of options for the citizens to access the news through multiple platforms. Digital distribution technologies allow for the customization of content and ease the production of news that is highly targeted to specific audiences .Thus, active participation has a greater influence in the redefinition of professional journalism.

The common areas of convergence between traditional media and new media have been given below-

i. Technological convergence : It is a process by which new media powered by information technology and the traditional media, that originally operated largely independent of one another, are converging together. This means that technological convergence has both a technical and a functional side. The technical side refers to the ability of any infrastructure to transport any type of data, while functional side means the consumers may be able to integrate in a seamless way the functions of computation, entertainment, and voice in a unique device able to execute a multiplicity of tasks.

ii. Economic convergence :This area of convergence consists of : 1) digitization; 2) corporate concentration, whereby fewer large companies own more media properties; and 3) government deregulation, which has increasingly allowed media conglomerates to own different kinds of media in the same markets, and which has permitted content carriage companies (e.g., cable and satellite TV distributors) to own content producers (e.g., specialty TV channels).

iii. Content convergence :This is the third area of media convergence which refers to a series of processes of convergence, integration and intersecting of the media in

the range of its content during the whole process of its creation, starting withplanning, through creating and supplying, to using.

New media convergence has transformed how content is created, distributed, and consumed. For example, a news story might originate from a traditional newspaper but be shared on social media platforms, discussed in online forums, and eventually adapted into video content for streaming services.This convergence has both challenges and opportunities. On one hand, it creates more competition for audience attention and advertising revenue. On the other hand, it allows for more creative storytelling, personalized content experiences, and innovative business models.

Overall, convergence with new media is reshaping the media landscape, leading to a more interconnected and dynamic environment where traditional boundaries are increasingly irrelevant.

2.5 Summing up

Thus, in this unit the concept of convergence and media convergence was discussed at length. Convergence of different forms of media have bridged the communication gap and have made the learning process more interesting and interactive. It also has a profound impact in the education sector and most of the educational institutions make use of communication tools and other online platforms for communicating with the learners.

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2.7 Model Questions

Q. 1: What changes have been brought about by the different types of media convergence?

Q.2 : What is social media convergence?

Q.3 : What are the advantages and disadvantages of media convergence?

Q.4 : What is the difference between convergence and divergence?

2.8 Answer to check your progress

Answer to Question No 1 : Media convergence refers to the merging of various forms of media content, distribution platforms, and technologies into a single integrated system.

Unit: 3

Satellite Channels, TRP and BARC

Unit Structure:

3.1 Introduction

3.2 Objectives

This unit is an attempt to analyse the concept of Satellite channels, TRP and BARC. After going through this unit you will be able to-

- Explain the overview of satellite channels
- Discuss the concept of TRP
- Explain the history and formation of BARC
- Discuss the original structure
- Explain its ipact on industry, its challenges and controversies and future prospects.

3.3 Satellite Channels

Introduction

Satellite television has revolutionized the way we consume media and entertainment. It is a service that delivers television programming to viewers by relaying it from a communications satellite orbiting the Earth directly to the viewer's location. This technology has transformed the broadcasting landscape, providing access to a plethora of channels from all over the world, irrespective of geographic boundaries. This note delves into the history, technology, benefits, challenges, and future prospects of satellite

channels, illustrating their significant impact on global communication and entertainment.

History of Satellite Television

Early Development

The concept of satellite communication dates back to the mid-20th century. The first artificial satellite, Sputnik 1, launched by the Soviet Union in 1957, demonstrated the potential for space-based communication. However, it wasn't until 1962 that the first communications satellite, Telstar 1, was launched by AT&T. Telstar 1 facilitated the first live transatlantic television broadcast, marking a pivotal moment in the history of telecommunications.

Commercialization and Expansion

The 1970s and 1980s saw the commercialization of satellite television. Intelsat, established in 1964, became a major player, providing satellite communication services to a global network of broadcasters. The launch of geostationary satellites, which remain fixed over one position on the Earth's surface, further enhanced the reliability and accessibility of satellite TV.

In 1976, HBO (Home Box Office) became the first cable network to deliver its programming via satellite. This breakthrough laid the foundation for other networks and led to an explosion in the number of channels available. By the 1990s, satellite television had become a mainstream service, offering viewers an array of channels and content options.

Technology Behind Satellite Television

Satellites and Transponders

Satellite television relies on communications satellites placed in geostationary orbit, approximately 35,786 kilometers (22,236 miles) above the equator. These satellites are equipped with transponders, which receive signals from a ground station, amplify them, and then retransmit them back to Earth. Each transponder operates on a specific frequency band, typically in the C-band (4-8 GHz) or the Ku-band (12-18 GHz).

Ground Infrastructure

To receive satellite television, viewers need a satellite dish, a low-noise block downconverter (LNB), and a satellite receiver or set-top box. The satellite dish captures the signal from the satellite and directs it to the LNB, which amplifies the signal and converts it to a lower frequency band suitable for transmission through coaxial cables. The receiver then decodes the signal and delivers it to the television set.

Digital and High-Definition Broadcasting

The transition from analog to digital broadcasting in the late 20th and early 21st centuries marked a significant technological advancement for satellite television. Digital signals offer higher picture and sound quality, greater bandwidth efficiency, and the ability to carry multiple channels on a single transponder. High-definition (HD) broadcasting further enhanced the viewing experience by providing superior resolution and clarity.

Benefits of Satellite Television

Wide Coverage and Accessibility

One of the primary advantages of satellite television is its extensive coverage. Unlike cable TV, which requires a network of ground-based infrastructure, satellite TV can reach remote and rural areas where laying cables is impractical or cost-prohibitive. This makes it an invaluable service for viewers in isolated regions, providing them with access to information, entertainment, and educational content.

Diverse Programming

Satellite television offers a vast array of channels, catering to a wide range of interests and demographics. From news, sports, and entertainment to educational and cultural programming, viewers have access to a diverse selection of content. This variety not only enhances the viewing experience but also promotes cultural exchange and understanding by exposing audiences to global perspectives.

Reliability and Quality

Satellite television is known for its reliability and high-quality signal transmission. Since the signal travels directly from the satellite to

the viewer's dish, it is less susceptible to the disruptions that can affect cable or terrestrial TV, such as weather-related issues or physical damage to infrastructure. Additionally, digital and HD broadcasting ensures that viewers receive clear, crisp images and sound.

Challenges and Limitations

Weather Interference

One of the main drawbacks of satellite television is its susceptibility to weather interference. Heavy rain, snow, or storms can disrupt the signal, leading to temporary loss of service. This phenomenon, known as "rain fade," occurs when atmospheric moisture attenuates the satellite signal, reducing its strength and quality. While technological advancements have mitigated this issue to some extent, it remains a concern for satellite TV users.

Initial Setup and Costs

The initial setup for satellite television can be more expensive compared to other forms of TV service. Viewers need to purchase or lease a satellite dish, LNB, and receiver, and professional installation is often required to ensure optimal signal reception. Additionally, subscription fees for satellite TV services can be higher than those for cable or terrestrial TV, depending on the package and provider.

Competition from Internet-Based Services

The rise of internet-based streaming services poses a significant challenge to satellite television. Platforms like Netflix, Amazon Prime, and Disney+ offer on-demand content, often at competitive prices, attracting viewers who prefer the convenience and flexibility of streaming. As broadband internet becomes more widely available, especially in rural areas, satellite TV providers must innovate and adapt to maintain their market share.

Regulatory and Legal Considerations

Licensing and Spectrum Allocation

Satellite television providers must comply with various regulatory and licensing requirements. Governments allocate specific frequency bands for satellite communication, and providers need

licenses to operate within these bands. Spectrum allocation is a critical issue, as the increasing demand for wireless communication services can lead to competition for available frequencies.

International Coordination

Since satellites operate in a global context, international coordination is essential to prevent signal interference and ensure efficient use of orbital slots. The International Telecommunication Union (ITU) plays a key role in managing the global allocation of satellite orbits and frequencies, facilitating cooperation among countries and providers.

Content Regulation

Satellite TV providers must adhere to content regulations imposed by national and international bodies. These regulations cover a range of issues, including broadcasting standards, advertising restrictions, and the protection of intellectual property rights. Compliance with these regulations is crucial to maintain the integrity and legality of satellite TV services.

Future Prospects

Technological Advancements

The future of satellite television is closely tied to ongoing technological advancements. Innovations in satellite design and launch capabilities, such as reusable rockets and miniaturized satellites, are expected to reduce costs and improve service quality. Additionally, the development of high-throughput satellites (HTS) promises to enhance bandwidth capacity, allowing for more channels and better quality content.

Integration with Internet Services

To remain competitive, satellite TV providers are increasingly integrating their services with internet-based platforms. Hybrid models that combine satellite broadcasting with internet streaming offer viewers the best of both worlds, providing a seamless and flexible viewing experience. This integration also enables features like video-on-demand, interactive services, and cloud DVR.

Expansion into Emerging Markets

Emerging markets present significant growth opportunities for satellite television. As developing countries invest in digital infrastructure and expand their telecommunications networks, the demand for satellite TV is expected to rise. Providers can capitalize on this trend by offering affordable and tailored services that cater to the unique needs and preferences of these markets.

Check your progress

Q.N.1 Explain the history of satellite channels in India.

Televisio/Target Rating Points (TRP)

Introduction

Target Rating Points (TRP) is a metric used primarily in the television industry to gauge the popularity and reach of television programs. TRP reflects the percentage of a particular demographic that has viewed a program, which in turn influences advertising revenue and strategic programming decisions. This comprehensive note delves into the intricacies of TRP, its calculation, significance, methodologies, and the challenges associated with it.

Understanding TRP

TRP measures the reach and popularity of TV shows among specific target audiences. It helps broadcasters and advertisers understand viewership patterns, which are crucial for making informed decisions about programming and advertising placements. TRP is expressed as a percentage and represents the proportion of the target audience that watches a show during a particular time frame.

Significance of TRP

Advertising Revenue: TRP is a crucial factor for television channels as it directly impacts advertising revenue. Higher TRP ratings indicate larger audiences, making a program more attractive to advertisers willing to pay a premium for commercial slots.

Programming Decisions: Networks use TRP data to determine which shows to continue, cancel, or reschedule. High TRP ratings suggest a show's popularity, leading to its renewal, while low ratings might result in cancellation.

Market Research: TRP provides insights into viewer preferences and trends, helping broadcasters tailor content to audience interests. This data-driven approach ensures content remains relevant and engaging.

Competitive Analysis: By analyzing TRP, networks can compare their performance against competitors, strategize on content delivery, and improve their market position.

Calculation of TRP

TRP is calculated using a combination of techniques and technologies designed to capture viewership data accurately. Here’s a simplified breakdown of the calculation process:

Sample Selection: A representative sample of households or individuals from the target demographic is chosen. This sample must accurately reflect the diversity and characteristics of the larger population.

Data Collection Methods:

People Meters: These electronic devices are installed in sample households to record the channels and programs watched. The data collected includes viewer demographics, such as age and gender, providing detailed insights into audience behavior.

Diaries: In some regions, viewers manually record their viewing habits in diaries, which are later collected and analyzed. While this method is more cost-effective, it is less accurate due to the potential for human error and bias.

Set-Top Box Data: Cable and satellite providers can collect viewership data directly from set-top boxes, offering a comprehensive view of audience patterns. This method is increasingly popular due to its accuracy and real-time capabilities.

Data Aggregation and Analysis: The collected data is aggregated and analyzed to calculate TRP. The analysis considers the time

spent watching each program, the number of viewers, and their demographic profiles.

Rating Calculation: TRP is calculated by dividing the number of viewers for a specific program by the total number of potential viewers in the target demographic, then multiplying by 100 to express it as a percentage.

Challenges in Measuring TRP

Despite its importance, measuring TRP comes with several challenges:

Accuracy and Reliability: Ensuring accurate and reliable data collection is challenging, especially with manual methods like diaries. People meters, while more accurate, can be expensive and intrusive.

Sample Representation: The sample must be representative of the larger population. Any bias in sample selection can skew the results, leading to inaccurate TRP ratings.

Technological Limitations: The rapid evolution of viewing habits, such as streaming and on-demand services, complicates TRP measurement. Traditional methods may not capture these new behaviors accurately.

Privacy Concerns: Collecting viewership data raises privacy concerns. Ensuring the anonymity and confidentiality of viewers is crucial to maintaining trust and compliance with regulations.

Recent Innovations in TRP Measurement

To address these challenges, the industry is adopting new technologies and methodologies:

Big Data Analytics: Leveraging big data allows for the analysis of vast amounts of viewership data from diverse sources, providing more accurate and comprehensive insights.

Artificial Intelligence (AI): AI can enhance TRP measurement by predicting viewership patterns, identifying trends, and improving the accuracy of data analysis.

Cross-Platform Measurement: With the rise of digital streaming, cross-platform measurement techniques are being developed to track viewership across different devices and platforms, ensuring a holistic view of audience behavior.

Hybrid Methods: Combining traditional and digital data collection methods can provide a more accurate picture of viewership. For example, integrating set-top box data with people meter data enhances the reliability of TRP calculations.

Impact of TRP on the Television Industry

TRP profoundly influences various aspects of the television industry:

Content Creation: High TRP ratings drive content creation, encouraging producers to develop shows that resonate with large audiences. Popular genres and formats are often replicated to capitalize on viewer preferences.

Scheduling: Networks use TRP data to optimize program scheduling. Prime-time slots are reserved for high-TRP shows to maximize viewership and advertising revenue.

Advertising Strategies: Advertisers rely on TRP to plan their campaigns. High-TRP programs attract more lucrative advertising deals, while low-TRP shows may struggle to secure advertisers.

Market Competition: TRP fosters competition among networks, driving them to innovate and improve their offerings. This competition benefits viewers by ensuring a diverse and high-quality range of programming.

Criticism and Controversies

TRP measurement is not without criticism and controversies:

Manipulation and Bias: There have been instances of TRP manipulation, where channels or producers allegedly tamper with viewership data to boost ratings. Such practices undermine the credibility of TRP as a reliable metric.

Limited Scope: Traditional TRP measurement focuses primarily on linear TV viewership, often overlooking the growing segment of online and on-demand viewers. This limitation reduces the accuracy of TRP as a comprehensive measure of audience engagement.

Viewer Fatigue: Constant emphasis on TRP can lead to viewer fatigue, as networks may prioritize high-TRP genres over innovative or niche content. This homogenization can reduce the diversity and quality of programming.

Ethical Concerns: The pressure to achieve high TRP ratings can lead to ethical compromises, such as sensationalizing content or prioritizing commercial interests over public service.

Future of TRP

The future of TRP measurement is evolving to address current limitations and adapt to changing viewer behaviors:

Integration with Digital Metrics: Combining TRP with digital metrics, such as online views, social media engagement, and streaming data, will provide a more holistic view of audience preferences and behaviors.

Enhanced Viewer Engagement: Innovative technologies, like interactive TV and personalized content recommendations, can enhance viewer engagement and provide more detailed insights into audience preferences.

Global Standardization: Developing global standards for TRP measurement can ensure consistency and comparability across different markets, improving the reliability and credibility of ratings.

Ethical Guidelines: Establishing robust ethical guidelines for TRP measurement and usage can mitigate the risks of manipulation and ensure that ratings accurately reflect genuine viewer preferences.

Check your progress

Q.N.1. What is TRP? Discuss the functions of TRP.

Broadcast Audience Research Council (BARC)

Introduction

The Broadcast Audience Research Council (BARC) India is a prominent television audience measurement service established to assess viewership patterns in the Indian television industry. Formed in 2010, BARC India is a joint industry body that includes stakeholders from broadcasters, advertisers, and advertising agencies. This note delves into the organization's history, structure, methodology, impact, and challenges, providing a comprehensive overview of BARC's role in shaping television broadcasting in India.

History and Formation

BARC India was formed as a response to the growing need for a reliable and transparent television audience measurement system. Before BARC, the Indian market relied heavily on data provided by TAM Media Research, which faced criticism over its sample size and methodology. The Indian Broadcasting Foundation (IBF), the Indian Society of Advertisers (ISA), and the Advertising Agencies Association of India (AAAI) collaborated to establish BARC to address these concerns. BARC was officially incorporated on July 30, 2010, and started its full-scale operations in 2015.

Organizational Structure

BARC India operates as a not-for-profit entity governed by a Board of Directors comprising representatives from its founding organizations. The structure includes:

Board of Directors: Senior executives from the broadcasting, advertising, and media agencies sectors.

Technical Committee: A group of experts responsible for overseeing the technical aspects of data collection and analysis.

Rating Committee: Focuses on ensuring the integrity and accuracy of the ratings.

Disciplinary Committee: Handles violations and ensures adherence to ethical standards.

Methodology

BARC India employs a sophisticated methodology to collect and analyze viewership data, ensuring comprehensive coverage and accuracy.

1. Sample Design

BARC's sample design is scientifically structured to represent India's diverse demographic landscape. It uses the National Readership Survey (NRS) and Census data to define its sample frame, ensuring it reflects various socio-economic and demographic segments.

2. Peoplemeter Technology

BARC utilizes "BAR-O-meters," which are state-of-the-art peoplemeters installed in sample households. These meters capture viewing habits by recording the channel being watched and the duration. The technology ensures accurate data collection with minimal manual intervention.

3. Watermarking Technology

To ensure precise channel identification, BARC employs watermarking technology. Broadcasters embed unique audio watermarks in their content, which are detected by the BAR-O-meters, thus accurately identifying the viewed channel.

4. Data Collection and Processing

Data collected from BAR-O-meters is transmitted daily to BARC's central servers. Advanced algorithms and data processing techniques are applied to clean, validate, and analyze the data. This process ensures that the reported ratings are accurate and free from tampering.

5. Reporting

BARC releases weekly viewership data through its various reporting tools, including BARC India Media Workstation (BMW) and YUMI Analytics. These platforms provide detailed insights into audience behavior, helping stakeholders make informed decisions.

Check your progress

Q.N.1. Write the organisational structure of BARC.

Impact on the Industry

Since its inception, BARC has significantly impacted the Indian television industry in several ways:

1. Enhanced Transparency

BARC's robust and transparent measurement system has increased the credibility of television ratings. This transparency has built trust among broadcasters, advertisers, and media agencies.

2. Data-Driven Decision Making

The detailed and granular data provided by BARC enables broadcasters and advertisers to make informed decisions. Program scheduling, advertising strategies, and content creation are now heavily driven by audience insights.

3. Advertising Revenues

Accurate measurement of viewership has led to better monetization opportunities for broadcasters. Advertisers can target specific demographics more effectively, leading to optimized ad spends and increased return on investment.

4. Content Quality

With precise audience feedback, broadcasters are more equipped to understand viewer preferences, leading to improved content quality and innovation. Popular genres and formats are identified and invested in, catering to audience demand.

Challenges and Controversies

Despite its successes, BARC has faced several challenges and controversies:

1. Data Integrity

Ensuring the integrity of data remains a critical challenge. Instances of data manipulation and tampering have been reported, undermining the credibility of the ratings.

2. Sample Size

While BARC has significantly increased the sample size compared to its predecessors, there are still concerns about its adequacy in representing India's vast and diverse population.

3. Regional Representation

India's regional diversity poses a challenge in ensuring adequate representation of all linguistic and cultural groups. Ensuring comprehensive coverage across all regions remains a work in progress.

4. Technological Limitations

The reliance on technology, such as BAR-O-meters and watermarking, introduces vulnerabilities. Technical malfunctions and errors can impact data accuracy.

5. Competition and Rivalries

The television industry is competitive, and rivalries between broadcasters can sometimes lead to allegations of bias or unfair practices by BARC. Ensuring impartiality in such a landscape is challenging.

Check your progress

Q.N.1. What are the challenges of BARC?

Future Prospects

Looking ahead, BARC aims to continue enhancing its methodologies and expanding its coverage. Key areas of focus include:

1. Digital Integration

With the increasing convergence of television and digital media, BARC is exploring ways to integrate digital audience measurement. This would provide a holistic view of audience behavior across platforms.

2. Technological Advancements

BARC is investing in advanced technologies such as artificial intelligence and machine learning to improve data accuracy and processing efficiency.

3. Expansion of Sample Size

Plans are underway to further increase the sample size, ensuring better representation and more granular insights into viewer behavior.

4. Strengthening Data Security

Enhancing data security measures to prevent tampering and ensure the integrity of ratings is a top priority for BARC.

5. Regional Focus

Efforts are being made to improve regional representation, ensuring that all linguistic and cultural groups are adequately represented in the sample.

Check your progress

Q.N.1. Describe the future prospects of BARC.

Summing up

Satellite television has had a profound impact on global communication and entertainment. Its ability to deliver high-quality, diverse programming to viewers regardless of location has made it an indispensable service. While challenges such as weather interference and competition from streaming services persist, the continued evolution of technology and strategic adaptations by providers promise a bright future for satellite TV. As we move forward, satellite television will likely remain a crucial component of the global media landscape, bridging gaps and bringing the world closer together through the power of broadcast communication.

Target Rating Points (TRP) play a pivotal role in the television industry, influencing content creation, advertising strategies, and competitive dynamics. While traditional TRP measurement methods have their limitations and challenges, ongoing innovations in technology and methodology are paving the way for more accurate and comprehensive viewership metrics. As the industry continues to

evolve, the integration of digital data and the adoption of ethical standards will be crucial in ensuring the reliability and relevance of TRP as a measure of television audience engagement.

The Broadcast Audience Research Council (BARC) India has played a pivotal role in transforming the television broadcasting landscape in India. By providing reliable and transparent viewership data, BARC has empowered broadcasters, advertisers, and media agencies to make informed decisions, driving growth and innovation in the industry. While challenges remain, BARC's continuous efforts to enhance its methodologies and expand its coverage promise a bright future for television audience measurement in India. As the media landscape evolves, BARC's adaptability and commitment to excellence will be crucial in maintaining its position as a trusted source of audience insights.

Self Asking Question

Q.N.1. Briefly analyse the growth and development of BARC.
Q.N.2. Explain the measurement process of TRP.
Q.N.3 Briefly analyse the growth of Satellite channles in the world.

References and suggested readings

Handbook of Journalism and Mass communication, VS Gupta, VB Agarwal(concept Publishers)

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UNIT : 4
CONTENT ANALYSIS IN ELECTRONIC MEDIA PRODUCTION

Unit Structure:

4.1 INTRODUCTION:

Content analysis is one of the most popular and rapidly expanding techniques for quantitative research. In fact, content analysis has been the fastest-growing technique in the field of mass communication research over the past 40 years or so.The content of electronic media means the programmes, messages, news and anything else that is transmitted through media for consumption of viewers or listeners. These contents are generally consumed by public as it is without any linguistic, semantic and psychologicalconsciousness about them. However, researchersin media studies and experts try to receive this content with consciousness about their biases, prejudices or other noises. There is scientific process for analysing the content of electronic media and decipher the actual meaning or purpose of these content.

4.2 OBJECTIVE:

This chapter will prepare you for doing scientific analysis of content of electronic media. After completing this chapter, you will be able to –

- Understand the definition and the process of content analysis
- Know the history of use of content analysis for research
- Detect the biases, prejudices and other noises in the content
- Independently make analysis of various content of electronic media.
- Decipher the hidden meaning and purpose (if any) of contents of electronic media.
- Understand use of Content Analysis for media research.

4.3 HISTORY OF CONTENT ANALYSIS:

Content analysis has a long history of use in communication, journalism, sociology, psychology, and business. Content analysis is growing in popularity for research in the field library and information science; in medical fields such as nursing, psychiatry, and paediatrics; in political science and in gender studies. *Webster's Dictionary of the English Language* included the term in its 1961 edition, making the term almost 63 years old. It defines content analysis as "analysis of the manifest and latent content of a body of communicated material (as a book or film) through classification, tabulation, and evaluation of its key symbols and themes in order to ascertain its meaning and probable effect."

In its beginnings, using the first newspapers at the end of the 19th century, analysis was done manually by measuring the amount of space in newspapers given to a subject. The beginning of the 20th century saw a visible increase in the mass production of newsprint. In the United States, the boom in newspapers created mass markets and interest in public opinion. Journalism schools emerged, leading to demands for ethical standards and for empirical inquiries into the phenomenon of the newspaper. These demands, plus a somewhat simplistic notion of scientific objectivity, were met by what was then called quantitative newspaper analysis. A quantitative newspaper analysis published in 1893 showed how, between 1881 and 1893, New York newspapers had dropped their coverage of religious, scientific, and literary matters in favour of gossip, sports, and scandals.

Quantitative newspaper analysis seemingly provided the needed scientific ground for journalistic arguments as it may be applied to a wide variety of printed matter, such as textbooks, comic strips, speeches, and print advertising. When other mass media became prominent, researchers extended the approach first used in newspaper analysis - measuring volumes of coverage in various subject matter categories - initially to radio and later to movies and television.

The second phase in the history of growth of content analysis took place in the 1930s and 1940s because of several factors. During the period following the 1929's economic crisis, numerous social and political problems emerged in the United States and people believed that the mass media were at least partially to blame for such problems as yellow journalism, rising crime rates, and the breakdown of cultural values. New and powerful electronic media of communication like radio and television, challenged the cultural hegemony of the newspapers. Researchers could not continue to treat these new media as extensions of newspapers, because they differed from the print media in important ways. For example, users of radio and television did not have to be able to read. Major political challenges to democracy during that time like the rise of fascism was also seen as nourished by the as-yet little-known properties of radio. This period also saw the emergence of the behavioural and social sciences as well as increasing public acceptance of the theoretical propositions and empirical methods of inquiry associated with them.

In the 1930s, sociologists started to make extensive use of survey research and polling. The experience they gained in analysing public opinion gave rise to the first serious consideration of methodological problems of content analysis (published by Julian L. Woodward in a 1934 article titled Quantitative Newspaper Analysis as a Technique of Opinion Research available at https://www.jstor.org/stable/2569712&https://academic.oup.com/sf/article-abstract/12/4/526/1990015). Questions of representations were raised, with researchers examining topics such as how Negroes were presented in the Philadelphia press; how U.S. textbooks described wars in which the United States had taken part, compared with textbooks published in countries that were former U.S. enemies; and how nationalism was expressed in children's books published in the United States, Great Britain, and other European countries.

One of the most important concepts that emerged in psychology during this time was the concept of "attitude." It added evaluative dimensions to content analysis, such as "pro or con" or "favourable or unfavourable" that were absent in quantitative newspaper analysis. Attitude measures redefined journalistic standards of fairness and balance and opened the door to the systematic assessment of bias. Psychological experiments in rumour transmission led Allport and Faden to study newspaper content from an entirely new perspective. In their 1940 article, "The Psychology of Newspapers: Five Tentative Laws," they attempted to account for the changes that information undergoes as it travels through an institution and finally appears on the printed page.

Several factors influenced the transition from quantitative newspaper analysis, which was largely journalism driven, to content analysis:

- Eminent social scientists became involved in these debates and asked new kinds of questions.
- The concepts these social scientists developed were theoretically motivated, operationally defined, and fairly specific, and interest in stereotypes, styles, symbols, values, and propaganda devices began to replace interest in subject matter categories.
- Analysts began to employ new statistical tools borrowed from other disciplines, especially from survey research but also from experimental psychology.

- Content analysis data became part of larger research efforts, and so content analysis no longer stood apart from other methods of inquiry.

The first concise presentation of these conceptual and methodological developments under the new umbrella term "content analysis"appeared in 1948 in *The Analysis of Communication Content,* authored by Berelson and Lazarsfeld, which was later published as Berelson's*Content Analysis in Communications Research* (1952). Berelson described content analysis as the use of mass communications as data for testing scientific hypotheses and for evaluating journalistic practices. Yet the most important and large-scale challenge that content analysis faced came during World War II, when it was employed in efforts to distinguish information from propaganda. Before the war, researchers analysed texts in order to identify "propagandists," to point fingers at individuals who were attempting to influence others through devious means.

Propaganda was used extensively during World War I, and the years between the two world wars witnessed the effective use of propaganda in Europe. In addition, the lack of knowledge concerning what the extensive use of the new mass media (radio, film, and television) could do to people raised concerns as well. Theories concerning subliminal messages, especially in advertising, raised widespread suspicion.

In the 1940s, as U.S. attention became increasingly devoted to the war effort, the identification of propagandists was no longer an issue. Nor were researchers particularly interested in revealing the power of the mass media of communication to mould public opinion; rather, military and political intelligence were needed. They analysed primarily domestic enemy broadcasts and surrounding conditions to understand and predict events within Nazi Germany and the other countries and to estimate the effects of Allied military actions on the mood of enemy populations. In order to ensure popular support for planned military actions, the allied force leaders had to inform, emotionally arouse, and otherwise prepare their countrymen and -women to accept those actions. It was discovered that they could learn a great deal about the enemy's intended actions by recognizing such preparatory efforts in the domestic press and broadcasts. They were able to predict several major military and political campaigns and to assess Nazi elites'

perceptions of their situation, political changes within the Nazi governing group, and shifts in relations among allied countries.

STOP TO CONSIDER:

Among the more outstanding predictions that British analysts were able to make with the help of content analysis was the date of deployment of German V weapons against Great Britain. The analysts monitored the speeches delivered by Nazi propagandist Joseph Goebbels and inferred from the content of those speeches what had interfered with the weapons' production and when. They then used this information to predict the launch date of the weapons, and their prediction was accurate within a few weeks.

During the growth of the field of content analysis, several new knowledge were gathered. It was realised that content is not inherent to communications. People typically differ in how they read texts. The intentions of the senders of broadcast messages may have little to do with how audience members hear those messages. Temporal orderings, individuals' needs and expectations, individuals' preferred discourses, and the social situations into which messages enter are all important in explaining what communications come to mean.

In order to interpret given texts or make sense of the messages intercepted or gathered, content analysts need elaborate models of the systems in which those communications occur (or occurred). The propaganda analysts working during World War II constructed such models more or less explicitly. Whereas earlier content analysts had viewed mass-produced messages as inherently meaningful and analysable unit by unit, the propaganda analysts succeeded only when they viewed the messages they analysed in the context of the lives of the diverse people presumed to use those messages.

Convinced that content analysis does not need to be inferior to unsystematic explorations of communications, numerous writers in the post-World War years challenged content analysts' simplistic reliance on counting qualitative data. However, the proponents of the quantitative approach largely ignored the criticism. In his 1949 essay "Why Be Quantitative?" Harold Laswell insisted on the quantification of symbols as the sole basis of scientific insights.

After World War II, and perhaps as the result of the first integrated picture of content analysis provided by Berelson (1952),

the use of content analysis spread to numerous disciplines. The very "massiveness" of available communications continued to attract scholars who looked at the mass media from new perspectives. In the meantime, psychologists began to use content analysis in various areas. Anthropologists, who started using content analysis techniques in their studies of myths, folktales, and riddles, have made many contributions to content analysis. Historians are naturally inclined to look for systematic ways to analyse historical documents, and they soon embraced content analysis as a suitable technique, especially where data are numerous and statistical accounts seem helpful. Social scientists also recognized the usefulness of educational materials, which had long been the focus of research. This proliferation of the use of content analysis across disciplines broadened the scope of the technique to embrace what may well be the essence of human behaviour - talk, conversation, and mediated communication.

The late 1950s witnessed considerable interest among researchers in mechanical translation, mechanical abstracting, and information retrieval systems. Computer languages suitable for literal data processing emerged, and scholarly journals started to devote attention to computer applications in psychology, the humanities, and the social sciences. The large volumes of written documents to be processed in content analysis and the repetitiveness of the coding involved made the computer a natural ally of the content analyst. The development of software for literal (as opposed to numerical) data processing stimulated new areas of exploration, such as information retrieval, information systems, computational stylistics, computational linguistics, word processing technology, and computational content analysis.

The use of computers in content analysis was also stimulated by developments in other fields. Scholars in psychology became interested in simulating human cognition. Newell and Simon (1963) developed a computer approach to (human) problem solving. Linguistics researchers developed numerous approaches to syntactic analysis and semantic interpretation of linguistic expressions. Researchers in the field of artificial intelligence focused on designing machines that could understand natural language.

In 1974, participants in the Workshop on Content Analysis in the Social Sciences, held in Pisa, Italy, saw the development of suitable algorithms as the only obstacle to better computer-aided content analyses. Since that time, computational approaches have

moved in numerous directions. In the 1990s, George Miller initiated a major research effort to chart the meanings of words using a computer-traceable network called WordNet.

Another development that has influenced how content analysts employ computers in their work is the increasingly common use of word processing software, which provides users with such features as spell-checkers, word- or phrase-finding and -replacing operations, and even readability indices. Content analysts have found the symbiosis of the human ability to understand and interpret written documents and the computer's ability to scan large volumes of text systematically and reliably increasingly attractive. The most important stimulus in the development of computational content analysis, however, has been the growing availability of text in digital form. It is very costly to enter handwritten documents, such as transcripts of audio recordings of interviews, focus group protocols, minutes of business meetings, and political speeches, into a computer. Scanners have vastly improved the scenario.

Today, a fantastic amount of raw textual data is being generated daily in digital form, representing almost every topic of interest to social scientists. With more and more people interested in this wealth of digital data, there is a corresponding demand for increasingly powerful search engines, suitable computational tools, text base managing software, encryption systems, devices for monitoring electronic data flows, and translation software, all of which will eventually benefit the development of computer-aided content analysis. The current culture of computation is moving content analysis into a promising future.

One could summarize and say that content analysis has evolved into a repertoire of methods of research that promise to yield inferences from all kinds of verbal, pictorial, symbolic, and communication data. Beyond the technique's initially journalistic roots, the past century has witnessed the migration of content analysis into various fields and the clarification of many methodological issues. After a short period of stagnation in the 1970s, content analysis is today growing exponentially, largely due to the widespread use of computers for all kinds of text processing.

CHECK YOUR PROGRESS:

(1) What do you understand by quantitative newspaper analysis?

(2) What are the factors that influenced the transition of quantitative newspaper analysis to content analysis?
(3) How computers can help in making content analysis easier?

SELF-ASKING QUESTIONS:

(1) What are the current developments in the field of content analysis?
(2) How content analysis can help mass communication research?

4.4.1DEFINITION OF CONTENT ANALYSIS:

There is a commoncontention that content analysis is "nothing more than what everyone does when reading a newspaper, except on a larger scale." As newspaper readers, we often apply our individual worldviews to texts, symbols etc. and follow our interest in what those texts mean to us. Content analysis may have been that way, in its early, journalistic stage, and its methodology does not rule out such readings, but this narrow definition is no longer sufficient today. As content analysis researchers, we must be able to describe what we are doing and how we derive at our judgments, so that others can replicate our results or build on them.

Content analysismay be briefly defined as the systematic, objective, quantitative analysis of characteristics of message (content) in media,not necessary from an author's or user's perspective. It includes both human-coded analyses and computer-aided text analysis (CATA). Content analysis in media is the study of communication elements like texts, pictures, audio or video. It can be used to examine particular patterns in communication so that it can be replicated in a systematic manner.

As a technique, content analysis involves specialized procedures which one can learn and which is detached from the personality of the researcher. Content analysis is a scientific tool that can provide new insights, increases a researcher's understanding of particular phenomena and helps in deciding on practical actions.

According to Kimberly A.Neuendorf, “Content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use”. Here, replicable means – researchers working at different points in time and perhaps under different circumstances should get the same results when applying the same technique to the same phenomena. The reference to *text* in the above definition is not intended to restrict content analysis to written material. The phrase “or other meaningful matter” is included in parentheses to indicate that in content analysis works of art, images, maps, sounds, signs, symbols, and even numerical records may be included as data—that is, they may be considered as texts—provided they speak to someone about phenomena outside of what can be sensed or observed. According to Neuendorf, content emerges in the process of a researcher analysing a textrelative to a particular context, discourses, or purposes.

Berelson (1952) defined content analysis as “a research technique for the objective, systematic and quantitative description of the manifest content of communication”. This definition assumes content to be contained in a text. The common human tendency is to read textual material selectively, in support of expectations rather than against them. That is why Berelson wanted his technique to be ‘objective’ and ‘systematic’. However, his definition can no longer be accepted as we will see that content analysis can both be qualitative and quantitative.

STOP TO CONSIDER:

Consider the situation of wartime analysts of enemy broadcasts who want to gauge, among other phenomena, the popular support that enemy elites enjoy in their country. In peacetime, researchers could obtain such information directly, through public opinion surveysor by on-site observations. In wartime, information of this nature is difficult to get. Here, analysts are typically not interested in the literal meanings of enemy broadcasts, in the rhetorical devices political leaders use, or in judging whether individual citizens are being deliberately misled.In fact, wartime propaganda analysts have good reasons to overlook manifest contents and ignore their truths.

To infer the extent of popular support for elite policies from enemy domestic broadcasts, the analysts must understand the role these broadcasts play in complex communication networks in which the mass-media system and political system interact with a population to make news acceptable. The propaganda analysts have to know something about the actors involved in the governing elite and in the military, about the media these actors have access to, and about other institutions that have a stake in current affairs. They must also have some knowledge of the political- economic processes that keep a country together and how the public tends to respond to mass-mediated messages. The picture they construct of what they are dealing with amounts to the context of their analysis. It connects the intercepted broadcasts to the phenomena of interest, whether they concern popular support of the governing elite's policies, planned military actions, or evidence of war weariness.

4.4.2 ADVANTAGES:

Most popular method for collecting data in communication research is a survey of the study population (i.e. the people who are being studied). The other popular method for data collection is stimulation of a certain social environment in which the subject population's reaction or behaviour is studied. The main advantage content analysis is that it does not need people's direct participation. We can study or analyse social phenomena in a non-invasive manner.

Content Analysis involve systematic reading or observation of elements of communication like advertisement messages, news, other programmes for presence of interesting or meaningful or biased pieces of content which are then assigned labels (sometimes called codes) to indicate the presence of these attributes. By systematically labelling the content researchers can analyse patterns of the content quantitatively using statistical methods, or use qualitative methods to analyse meanings of content.

Content analysis can be used for understanding linguistic, semantic, and psychological character of communication and such understanding can be used further to make communication better and more effective. Now-a-days computers are increasingly used to automate the labelling (or coding) in content analysis which makes it easier to handle large amount of content. Various software are also available to segregate and group these labelled data for human analysis. In some cases the analysis can also be left to computer programmes.

CHECK YOUR PROGRESS:

(4) What are the two main definitions of content analysis?

(5) Write three advantages of content analysis as research tool

(6) In what respectmedia content is different for common people and researchers?

SELF-ASKING QUESTION:

(3) Can you make a list of "other meaningful matters" mentioned in Kimberly A. Neuendorf's definition of content analysis?

4.4.3 QUALITATIVE AND QUANTITATIVE CONTENT ANALYSIS:

To understand the concept of content analysis we will discuss an example of a content analysis project undertaken in 2008 in Germany. A team of 31 researchers, who developed codes, inspected folktales from around the world for just one thing—the use of 'attractiveness descriptors' for females versus males. The study included measures of

(a) attractiveness and unattractiveness references (measured via the presence of 58 pre-chosen adjectives and their variants, such as pretty/prettier/prettiest and ugly/uglier/ugliest) and

(b) the gender of the character to whom each reference applied (measured via use of personal pronouns). Additionally,

(c) a rough measure of how many characters in each tale were female and male was executed via electronic word searches for pronouns so that attractiveness references could be expressed as proportional to the number of characters of that gender.

So just three measures were developed for this study using a simple coding scheme. However, the researchers chose an exceptionally large sample for its application - 90 volumes of traditional folktales from 13 regions around the world. In total, 8.17 million words in 16,541 single-spaced pages were analysed.

The results showed that stories from European folktales show the greatest "gender bias" - a female character in these tales is 8.81 times more likely to be referred to as attractive/unattractive than is a male. Overall, female characters are 6.0 times more likely to be referred to with regard to attractiveness than are males. And there were no region of the world that seems to generate folktales with gender parity, or with male predominance, when it comes to attractiveness references.

From the above example we see that unmeasurable qualities like beauty, prettiness, attractiveness etc. were converted into measurable quantities with the help of coding / labelling and then analysed to arrive at objective conclusions. This is called turning qualitative data into quantitative data.

Perhaps in response to the now dated "quantitative newspaper analysis" of more than a century ago or as a form of compensation for the sometimes-shallow results reported by the content analysts of 60 years ago, a variety of research approaches have begun to emerge that call themselves qualitative. However, all reading of texts is ultimately qualitative, even when certain characteristics of a text are later converted into numbers. The fact that computers process great volumes of text in a very short time and represent these volumes in ways someone can understand does not remove the qualitative nature of the texts being analysed and the algorithms used to process them.

Nevertheless, proponents of qualitative approaches to content analysis offer alternative protocols for exploring texts systematically. Qualitative approaches to content analysis have their roots in literary theory, the social sciences (symbolic interactionism, ethnomethodology), and critical scholarship (Marxist approaches, British cultural studies, feminist theory). Sometimes they are given the label interpretive.

They share the following characteristics:

- They require a close reading of relatively small amounts of textual matter.
- They involve the rearticulation (interpretation) of given texts into new (analytical, deconstructive, emancipatory, or critical) narratives.
- The analysts acknowledge working within hermeneutic circles in which their own socially or culturally conditioned understandings constitutively participate.

There are various approaches to qualitative content analysis. Discourse analysisis one such approach. Generally, discourseis defined as text above the level of sentences. Discourse analysts tend to focus on how particular phenomena are represented. For example, Van Dijk (1991) studied manifestations of racism in the press: how minorities appear, how ethnic conflicts are described, and how stereotypes permeate given accounts, for example, in advertisements during sports events. Other discourse analysts have examined how television news programs and other TV shows in the United States manifest a particular ideological vision of the U.S. economy, and the portrayal of the peace movement in news editorials during the Gulf War.

Researchers who conduct social constructivist analysesfocus on discourse to understand how reality comes to be constituted in human interactions and in language. Such analysts may address how emotions are conceptualized or how facts are constructed or they may explore changing notions of self or of sexuality. Rhetorical analysis,in contrast, focuses on how messages are delivered and with what (intended or actual) effects. Researchers who take this approach rely on the identification of structural elements, tropes, styles of argumentation, speech acts, and the like.

Ethnographic content analysis does not avoid quantification but encourages content analysis accounts to emerge from readings of texts. This approach works with categories as well as with narrative descriptions but focuses on situations, settings, styles, images, meanings, and nuances presumed to be recognizable by the human actors/speakers involved. Conversation analysisis another approach that is considered to be qualitative. The researcher performing such an analysis tends to start with the recording of verbal interactions in natural settings and aims at analysing the transcripts as records of conversational moves toward a collaborative construction of conversations.

Content analysis of textual big data produced by new media, particularly social media and mobile devices has become popular. These approaches take a simplified view of language that ignores the complexity of semiosis, the process by which meaning is formed out of language. Quantitative content analysts have been criticized for limiting the scope of content analysis to simple counting, and for applying the measurement methodologies of the natural sciences without reflecting critically on their appropriateness to social science. Conversely, qualitative content analysts have been criticized for being insufficiently systematic and too impressionistic. Krippendorff argues that quantitative and qualitative approaches to content analysis tend to overlap, and that there can be no generalisable conclusion as to which approach is superior. There are ample examples to prove that qualitative methods are successful in political analyses of foreign propaganda, in psychotherapeutic assessments, in ethnographic research, in discourse analysis, and, oddly enough, in computer text analysis.

4.5 CHARACTERISTICS OF CONTENT ANALYSIS:

Contemporary content analysis has three distinguishing characteristics.

First, content analysis is an empiricalmethod,exploratory in process, and predictive or inferential in intent. We now do not judge or measure human communication for its success or failure in transmitting information. Instead, we inquire into what happens to the relationships between people who converse with one another. With new conceptualizations and an empirical orientation, contemporary content analysts join other researchers in seeking valid knowledge or practical support for actions and critique. However, unlike researchers who employ other empirical techniques, content analysts examine data, printed matter, images, or sounds or texts in order to understand what they mean to people, what they enable or prevent, and what the information conveyed by them does. These are questions for which natural scientists have no answers.

Second, contemporary content analysis transcends traditional notions of symbols, contents, and intents. This may be better understood if we look at the evolution of the concept of communication; how the development of media technologies has shaped our attention to communication; and in the role of culture in assigning significance to what is being communicated.

Let us now discuss six concepts of communication which have undergone tremendous changes:

- The idea of messages: Our earliest understanding of message was that verbal discourse became portable when written and that message has predictable effects. Thus, history became documented; laws of the landwere laid down in writing; and written instructions built organizational structures, directed events, and influenced their receivers or the public. But a message is now considered to be the metaphorical container of all these, a "container of content," a vehicle for shipping meanings from one place to another - for example, when we now leave a message for someone on voice mail or say that a message was meaningful (full of meanings) or meaningless (void of meanings).
- The idea of channels: In case of channels, our early understanding was that every medium imposes constraints on human communication because of their inherent limitations. The alphabet limits what one can say in writing; the telephone confines communication to sound; and a television station can air no more than what is transmittable without interference from other stations, and what is deemed profitable by sponsors. The channel metaphor conjures images of canals and pipes with restricted capacities for shipping messages (with their contents) of certain forms and volumes.

- The idea of communication:We started with the belief that communication establishes relations between senders and receivers, enables the negotiation of complementary roles, constitutes social structures, and communities whose members have a sense of knowing each other. By producing and disseminating identical messages—news and entertainment—to everyone, the mass media promised to be an agent of sharing, of building publics, ideally beyond borders. Modelled on the success of mass production and ever-expanding markets for useful goods, the mass media also made us aware of where this one-way model failed: making people aware of often amplifying social differences, limiting face-to-face conversations, curtailing public deliberations, and addressing only commercially viable issues.
- The idea of systems:The idea of a global, dynamic, and technologically supported interdependencies emerged with the growth of communication networks—telephone nets, wire services, mass-media systems, and most recently the Internet—transforming commerce, politics, and interpersonal relationships, creating networks whose properties have largely defied theoretical accounts. Unlike the one-way mass media, systems are marked by the interactivity and simultaneity of parallel communication on a massive scale and with the potential of near universal participation.
- The idea of computation: We have been witnessing increasing replacement of communicators by algorithms; messages may be generated by robots and addressed to computers, whether it involves the use of automatic teller machines, online shopping, or computer-generated messages on the Internet. This changes the conception of messages as understandable by senders and receivers to what has computable consequences. Letter writingis being replaced by e-mailing, and interpersonal relations are shaped by the platforms that mediate them. Computation not only has made social life more variable but also has introduced complexities that easily escape understanding.

• The idea that reality is discursively co-constructed: The recognition that we live together in language, can never think alone, and constitute our institutions as interdependent realities through whatwe say to and do with each other. Communication researchers no longer can limit themselves to questions about "who says what, through which channels, to whom, and with which effects". The popular and simplistic notion of "content" has outlived its explanatory value as we have noted in our understanding of messages above (containers of content).

This notion of message content renders creator of a message an authority who would decide what messages contain and the content analystsas an expert, who would be able to objectively tell us what messages really contain or are intended to convey, distinct from ordinary and usually inaccurate readings by less qualified readers.

Third, contemporary content analysis has been forced to develop a methodology of its own, one that enables researchers to plan, execute, communicate, reproduce, and critically evaluate their analyses whatever the particular results. Content analysts have had to develop such a methodology for three reasons:

• *Content analysts now face larger contexts*. The shift in interest from small collections of printed messages to systems and then to electronic texts and images circulating in the environment of content analysts is tied less to the nature of textual data than to the increasingly complex worlds that produce and are sustained by these data. This shift calls for theories and conceptions that earlier content analysts did not need. Although content analysts have frequently lamented the lack of general theories that could justify their work, progress in implementing more specific or microlevel theories is encouraging. This is especially true where content analysis has migrated through disciplines that were not previously concerned with textual data, such as the cognitive sciences and artificial intelligence.

• *Greater numbers of researchers need to collaborate in the pursuit of large-scale content analyses.* This observation is a correlate of the growing sample sizes of relevant texts, the analysis of which easily exceeds what individual analysts can handle. It implies that content analysts must work together, in parallel, and as research teams.

• *The large volumes of electronically available data call for computer aids*. Such aids need to convert large bodies of electronic text into more manageable representations that preserve the ability to answer the research questions that content analysts seek to derive from available data. Currently, two competing approaches are pursued to handle overwhelming volumes of data. One is to develop text analysis software capable of computing complex statistics of the character strings of text or pixelized images. (More curious learners may read about Large-scale Language Models used in Artificial Intelligence) The other approach is to develop less ambitious computer aids that merely replace the labor-intensive and recurrent parts of more complex content analyses like coding, categorising and grouping.

CHECK YOUR PROGRESS:

(5) What are the threecharacteristics of content analysis?

(6) What are the six communication concepts that have undergone tremendous changes?

(7) What are the differences between qualitative and quantitative content analysis?

SELF-ASKING QUESTION:

(4) How computers being made capable of understanding language helped in developing artificial intelligence?

4.6VIDEO CONTENT ANALYSIS:

Video content analysis or video content analytics (**VCA**), also known as video analysis or **video** analytics (**VA**), is the capability of automatically analysing video to detect and determine temporal and spatial events. This technical capability is used in a wide range of domains including entertainment, video retrieval and video browsing, health-care, retail, automotive, transport, home automation, flame and smoke detection, safety, and security. The algorithms can be implemented as software on general-purpose machines, or as hardware in specialized video processing units.

VCA is a relatively new technology, with numerous companies releasing VCA-enhanced products in the mid-2000s. Functionalities such as motion detection, people counting and gun detection are available as commercial off-the-shelf products. In response to the COVID-19 pandemic, many software manufacturers have introduced new public health analytics like face mask detection or social distancing tracking AND CCTV systems. Video Analytics and Smart CCTV are commercial terms for VCA in the security domain.

Many different functionalities can be implemented in VCA. Video Motion Detection is one of the simpler forms where motion is detected with regard to a fixed background scene. Based on the internal representation that VCA generates in the machine, it is possible to build other functionalities, such as video summarization, identification, behaviour analysis, or other forms of situation awareness.

Video management software manufacturers are constantly expanding the range of the video analytics modules available. With a new suspect tracking technology, it is possible to track all of this subject's movements easily - where they came from, and when, where, and how they moved. Within a particular surveillance system, the indexing technology is able to locate people with similar features who were within the cameras' viewpoints during or within a specific period of time. Usually, the system finds a lot of different people with similar features and presents them in the form of snapshots. The operator only needs to click on those images and subjects which need to be tracked. Within a minute or so, it's possible to track all the movements of a particular person, and even to create a step-by-step video of the movements. Communication researchers are now increasingly using VCA for new media content analysis.

STOP TO CONSIDER

Video content analysis can be used extensively by law enforcement agencies and in forensics while investigating criminal activity. Police use software, such as Kinesense, which performs video content analysis to search for key events in a video and find suspects. Police can also use video content analysis software to search long videos for important events.

4.7 SUMMING UP:

4.8 REFERENCE AND SUGGESTED READINGS:

(1) Neuendorf, Kimberly A., *The Content Analysis Guidebook*, Sage Publications (2017)

(2) Krippendorff, Klaus, *Content Analysis: An Introduction to Its Methodology*, Sage Publication (2019)

4.9 MODEL QUESTIONS:

4.10 ANSWERS TO CHECK YOUR PROGRESS:

4.11 POSSIBLE ANSWERS TO SELF-ASKING