

**Unit-I****Chapter 1 : Audio Fundamentals 1-1 to 1-24**

Syllabus : Basic characteristics of sound signal, Level and loudness, Pitch, Frequency response, Fidelity, Sensitivity and selectivity. Audio amplifiers : Mono, Stereo, Microphone : Working principle and characteristics, Types : Carbon, Condenser, Crystal, Electrets and tie clip, Speakers : Working principle and characteristics, Types : Electrostatic, Dynamic, Permanent magnet etc. Woofers, Tweeter and midrange, Wireless, Troubleshooting procedure.

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Unit-II

Chapter 2 : Audio Systems **2-1 to 2-32**

Syllabus : Block diagram and operation of CD player, Types of CD player, Component used for CD mechanism : CD pick-up assembly, Gear system, Drive motors, CD lens, Block diagram of Hi-Fi amplifier and its working, Public Address (PA) system : Block diagram and operation, Speaker impedance matching and characteristics, Home theatre system, Troubleshooting procedure of audio systems, Block diagram and working of MP3.

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Chapter 3 : TV Fundamentals and Transmitter 3-1 to 3-45	
Syllabus : Concept : Aspect ratio, image continuity, interlace scanning, scanning periods – horizontal and vertical, vertical and horizontal resolution. Vestigial sideband transmission, bandwidth for Colour signal, characteristics of colour signal compatibility. Colour theory, Grassman's law, additive and subtractive Colour mixing. Composite Video Signal - Pedestal height, Blanking pulse, Colour burst, Horizontal sync. pulse details, Vertical sync. pulse details, Equalizing pulses, CCIR B standards for Colour signal transmission and reception. Positive and negative modulation, Merits and demerits of negative modulation. Block diagram of colour TV transmitter, Troubleshooting procedure of colour TV transmitter.	
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**Unit-IV****Chapter 4 : Television Receivers 4-1 to 4-42**

Syllabus : Block diagram and operation of colour TV receiver, Operation of PAL-D decoder HDTV : Development of HDTV, NHK, MUSE system and NHK broadcast, LED/LCD technology, principle and working of LCD and LED TV., Direct to Home receiver (DTH), Concept, receiver block diagram, Indoor and outdoor unit Troubleshooting procedure of colour TV receiver system, Block diagram and working of OLED.

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Unit-V**Chapter 5 : Consumer Electronic Applications****5-1 to 5-16**

Syllabus : Photocopier block diagram, Working Microwave oven : Types, Single chip controllers, Block diagram, Types and wiring and safety instructions, Electrical specifications.

Washing machine : Block diagram of washing machine, Electrical specifications, Types of washing machines :

Automatic, Semiautomatic, Digital camera and camcorder : Pick up devices, Picture processing and picture storage, Electrical specifications.

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