



17537

21415

3 Hours/100 Marks

Seat No.

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- Instructions :** (1) **All questions are compulsory.**
(2) Answer **each** next main question on **a new page.**
(3) Illustrate your answers with **neat sketches wherever necessary.**
(4) Figures to the **right** indicate **full marks.**
(5) **Assume** suitable data, **if necessary.**
(6) **Use of non-programmable Electronic Pocket Calculator is permissible.**
(7) **Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.**

MARKS

1. A) Attempt **any three** : 12
- a) Compare between woofer, tweeter and squawker on the basis of following parameters.
 - i) Frequency response
 - ii) Cross over network
 - iii) Cost
 - iv) Application.
 - b) Draw the block diagram of dB meter with neat label.
 - c) Define the following terms :
 - i) Contrast
 - ii) Luminance
 - iii) Hue
 - iv) Saturation.
 - d) State any four advantages of vacuum fluorescent display.
1. B) Attempt **any one** : 6
- a) Draw the block diagram of Colour TV transmitter and write the function of each block.
 - b) What is EHT ? Describe its need. Draw the circuit diagram for EHT generation using diode split addition technique.
2. Attempt **any four** : 16
- a) Describe the principle of LCD with neat sketch.
 - b) List the frequencies of TV channel allocation for band I and band III.
 - c) Describe NHK and MUSE system.
 - d) Describe the working of pick-up unit of a CD player with neat sketch.
 - e) Draw the block diagram of PAL-D decoder.
 - f) State the requirement of stereo amplifier to becomes Hi-Fi amplifier (any four).

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3. Attempt **any four** : 16
- a) Draw the layout diagram for distribution of cable connection for MATV and describe it.
 - b) Differentiate NTSC with PAL with respect to types of chrominance modulation, line frequency, field frequency and used in which countries.
 - c) Draw and describe the block diagram of Hi-Fi amplifier.
 - d) Describe the block diagram of CD player with neat block diagram.
 - e) Define vestigial sideband transmission. State its any two merits and demerits.
4. A) Attempt **any three** : 12
- a) Describe with neat sketch how interlaced scanning will help to reduce the bandwidth of the video signal.
 - b) List any two merits and demerits of negative modulation.
 - c) State the function of tray motor and slide (feed) motor.
 - d) Draw the Yagi-Uda antenna and its radiation pattern. Explain its working.
4. B) Attempt **any one** : 6
- a) Draw the circuit diagram of RGB drive amplifier used in colour TV. Explain the function of each component used in it.
 - b) Describe why equalizing pulses are required. Draw the vertical synchronizing pulse structure.
5. Attempt **any two** : 16
- a) Draw the block diagram of Colour TV receiver. How signal is processed in each block ?
 - b) Draw and describe the block diagram of LNBC. List its any two application.
 - c) Describe the Principle of (PIL) precision in line and delta gun picture tube with neat sketch.
6. Attempt **any four** : 16
- a) State Grassman's law. Draw the sketch of additive mixing.
 - b) Why Amplitude Modulation (AM) is preferred for picture signal and FM is preferred for sound signal in TV system ?
 - c) Describe the need of multiplexer and attenuator in cable TV.
 - d) Compare mono amplifier and stereo amplifier.
 - e) Draw composite video signal with label.
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