



17547

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**
  - I) Describe generation of U and V signals in TV Receiver
  - II) Draw neat block diagram of sync separator circuit and explain its working.
  - III) State purpose of remote control system in TV Receiver.
  - IV) With neat block diagram explain working of AFT in colour TV.
- b) Attempt **any one** : **6**
  - I) Draw neat circuit diagram of luminance signal processing unit and describe its working.
  - II) Draw trinitron picture tube schematic and explain its working.
2. Attempt **any four** : **16**
  - I) Draw circuit and explain working of forward and reverse type SMPS.
  - II) Draw neat circuit diagram of ACC amplifier. State function of ident circuit.
  - III) Draw diode split technique for generation of EHT.
  - IV) State advantages and disadvantages of remote control system in TV (2 each)
  - V) Describe orientation of liquid crystal to form matrix of picture pixels in TV.
  - VI) Draw block diagram of remote transmitter and receiver in TV.

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3. Attempt **any four** : 16
- I) Draw block diagram and explain working of push-pull SMPS.
  - II) Draw neat block diagram of micro controller based TV.
  - III) State requirement of AGC and AFT in TV.
  - IV) Draw neat circuit diagram of colour killer circuit and state its function.
  - V) State characteristics, features of plasma TV (any eight).
4. a) Attempt **any three** : 12
- I) Describe stereoscopic effect with the help of special glass, auto stereoscope.
  - II) Draw schematic diagram of IC CA7607 and state its function.
  - III) Name four controls available in plasma TV and give its function.
  
  - IV) Draw schematic diagram of IC7609 and state its function.
- b) Attempt **any one** : 6
- I) Describe SAW filter with neat diagram. State its advantages.
  - II) Draw neat diagram of PAL Decoder and state function of each block.
5. Attempt **any two** : 16
- I) Draw neat block diagram of colour TV receiver and state function of each block.
  - II) Draw neat circuit diagram of horizontal output amplifier and describe its operation.
  - III) Draw neat circuit diagram of reference oscillator and explain its working.
6. Attempt **any four** : 16
- I) Draw neat diagram of sound IF section and explain.
  - II) List different techniques for generating 3D effect. Explain any one in brief.
  - III) Draw block diagram of hyper band tuner. State different types of tuning.
  - IV) List characteristics of trinitron picture tube.
  - V) State requirement of chroma delay line. Draw constructional diagram of delay line.
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