



# 17547

16172

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) Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.

**Marks**

1. A) Attempt **any three** : **12**
  - a) What is ident signal ? How is it generated ?
  - b) Draw neat circuit diagram of H-o/p amplifier.
  - c) Explain the role of microcontroller in T.V. receiver.
  - d) State and explain working of SAW filter with necessary diagram.

B) Attempt **any one** : **6**

  - a) Draw block diagram of PAL D decoder and describe U and V signal separation.
  - b) Give the concept of 3-D T.V. Describe auto stereoscope method for the same.
2. Attempt **any four** : **16**
  - a) Explain how final anode voltage, focus voltage and screen voltage are obtained in colour T.V. receiver.
  - b) How Y signal processing is carried out in colour T.V. receiver ? Explain with neat block diagram.
  - c) With neat circuit diagram, explain operation of forward SMPS.
  - d) Draw neat block diagram of micro controller based T.V. receiver.
  - e) Explain working principle of LCDTV.
  - f) Draw block diagram of remote control transmitter and explain its operation.
3. Attempt **any four** : **16**
  - a) List advantages and disadvantages of SMPS over conventional regulated power supply (2 each).
  - b) Draw block diagram of remote receiver used in T.V. receiver. How it decodes infrared waves ?
  - c) What is electronic tuning ? Explain basic circuit operation of varacter diode tuning.
  - d) With neat circuit diagram, explain operation of colour killer circuit.
  - e) List major controls available in plasma T.V. (any 8).

**P.T.O.**



4. A) Attempt **any three** : **12**
- a) Compare features of plasma T.V. receiver with that of LCD T.V. receiver.
  - b) Why AFT and AGC are necessary in colour TV receiver ?
  - c) Draw neat diagram showing constructional details of trinitron picture tube. Label its components.
  - d) Draw schematic diagram of IC 7609.
- B) Attempt **any one** : **6**
- a) Draw neat block diagram of colour T.V. receiver. Show various waveforms at different points.
  - b) Draw neat block diagram of adder and subtractor to separate U & V signals.
5. Attempt **any two** : **16**
- a) Draw functional block diagram of VIF IC. Explain function of each block.
  - b) Draw neat block diagram of sweep section and explain function of each block.
  - c) Why reference oscillator is used in colour TV receiver ? Draw its circuit diagram and explain its operation.
6. Attempt **any four** : **16**
- a) Draw block diagram of AFT and explain its operation.
  - b) Explain working principle of projection TV.
  - c) With neat diagram explain frequency synthesizer tuning.
  - d) How plasma TV is different from CRT TV receiver ?
  - e) Describe function of chroma delay line.
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