



17547

15116

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) Explain the working of Luminance signal processing with circuit diagram. | |
| b) Draw neat circuit diagram of sync separator and explain its working. | |
| c) Draw neat block diagram of microcontroller based TV system. | |
| d) With neat sketch, explain construction of SAW filter. | |
| B) Attempt any one : | 6 |
| a) Draw circuit diagram of ident signal amplifier and colour killer. Explain its working. | |
| b) Explain auto stereoscopic method of 3 DTV. Write its one advantage. List different methods of auto stereoscopic. | |
| 2. Answer any four : | 16 |
| a) Explain the generation of EHT using diode split Technique. | |
| b) With the help of block diagram; explain the generation of U and V signal in TV Receiver. | |
| c) Describe the working of push-pull SMPS with the help of block diagram. | |
| d) List advantages and disadvantages of remote control system. | |
| e) List characteristics and features of Plasma TV. | |
| f) Draw the block diagram of Remote Control Transmitter and Receiver unit and explain its functioning. | |

P.T.O.



Marks
16

3. Attempt any four :

- a) Draw circuit of forward SMPS and explain its working.
- b) Explain the role of microcontroller in TV Receiver.
- c) Draw block schematic of AFT in TV Receiver and justify its need in TV Receiver.
- d) Give the principle on which ACC Amplifier works. Draw the circuit of ACC Amplifier and describe its working.
- e) Compare LCD TV Receiver with Plasma TV Receiver. w.r.t. features (4 points).

4. A) Attempt any three :

12

- a) Explain the working of Trinitron picture tube with help of well labelled diagram.
- b) List four advantages and four disadvantages of SAW filter in TV Receiver.
- c) Describe the orientation of liquid crystal to form a matrix of picture pixels.
- d) Draw H- output amplifier circuit and explain its working.

B) Attempt any one :

6

- a) Draw schematic and explain the function of sound section IC 1190 in TV Receiver.
- b) What is the requirement of chroma delay line ? Draw its constructional detail and describe its working.

5. Attempt any two :

16

- a) Draw block diagram of colour TV Receiver and explain, how signal flow takes place in same.
- b) Explain the functioning of sweep section with the help of neat block diagram.
- c) Draw block diagram of PAL decoder and explain the function of each block.

6. Attempt any four :

16

- a) Draw block diagram of VIF stage.
 - b) List different methods of charging LCD. Explain any one method used in LCD TV Receiver.
 - c) Illustrate with diagram working of frequency synthesizer tuning.
 - d) Describe 3D TV technology. Why special glasses are required for watching 3D programmes ?
 - e) State need of reference oscillator and draw its circuit diagram.
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