



17547

15162

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 need of chroma delay line in colour TV Receiver.
 - b) Draw neat diagram showing details of horizontal output amplifier and explain its working.
 - c) List two advantages and two disadvantages of remote control system.
 - d) Draw hyper band tuner with varicap tuning and explain its working.

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

 - a) Draw colour killer circuit and explain its function in colour TV
 - b) What is 3D effect ? Write the techniques develop to create a 3D effect.
2. Attempt **any four**: **16**
 - a) Draw forward type SMPS and list any two merits and demerits.
 - b) Explain the working of ACC amplifier with neat circuit diagram.
 - c) Draw schematic diagram of EHT generation and write its working principle.
 - d) State the role of microcontroller in T.V. Draw a block diagram of micro controller base T.V.
 - e) List any eight major controls available in plasma T.V.
 - f) Draw the block diagram of remote transmitter and explain the function of each block.
3. Attempt **any four**: **16**
 - a) Describe the operation of push pull type SMPS with neat circuit diagram.
 - b) Draw the block diagram of remote receiver and explain the function of each block.
 - c) Draw the constructional diagram of SAW filter and list any two advantages and two disadvantages of SAW filter.
 - d) What is need of reference oscillator in T.V. receiver ? Draw its circuit diagram.
 - e) Compare LCD and LED TV (any 4 point).

P.T.O.



- 4. A) Attempt any three** **12**
- a) Differentiate plasma colour TV with conventional CRT TV receiver.
 - b) State the need of AGC and AFT in TV.
 - c) Describe the working principle of Trinitron picture tube with neat diagram.
 - d) Draw the diagram of IC 7609 and explain the function of each block.
- B) Attempt any one:** **6**
- a) Draw the block diagram of VIF stage and state the function of each block.
 - b) Draw the block diagram of PAL-D decoder and explain the function of colour killer section.
- 5. Attempt any two :** **16**
- a) Draw VIF stage using IC 7611/7607 in colour TV receiver and state function of any two block.
 - b) Draw the block diagram of sweep section and explain the function of each block.
 - c) Explain how U and V signals are separated from chroma signal.
- 6. Attempt any four :** **16**
- a) Explain the generation of sound IF using IC 1190, with its schematic diagram.
 - b) Explain how picture pixels form in plasma TV and give its characteristics.
 - c) Describe the working of frequency synthesizer tuning with neat diagram.
 - d) What is stereoscopic effect ? Why it is necessary to use in 3D TV ?
 - e) Draw the circuit diagram of luminance signal processing and explain its working.
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