

Con. 5961-09.**SP-8114****(3 Hours)****[Total Marks : 100****N.B. : (1) Question No. 1 is compulsory.****(2) Attempt any four questions from the remaining six questions.****(3) Figures to right indicate full marks.****(4) Assume suitable data if necessary.**

1. (a) Explain chromaticity diagram. 5
 (b) State specification of CCIR-B Monochrome TV system. 5
 (c) Why is SAW filter used in TV receiver ? Explain with diagram. 5
 (d) Explain additive and subtractive mixing of colours in TV. 5

2. (a) Draw a neat block diagram of a monochrome TV transmitter and explain the working of each stage with the help of relevant waveforms. 12
 (b) Draw and explain composite video signal. 8

3. (a) Compare Delta Gun, PIL and Trinitron picture tubes. 10
 (b) With the help of a neat sketch, explain the working of image orthicon camera tube. 10

4. (a) Explain the function of following in a colour TV receiver – 10
 (i) R.F. Tuner.
 (ii) Degaussing coil
 (iii) Purity and convergence magnets
 (iv) Colour killer circuit
 (v) Subcarrier oscillator.
 (b) Explain the functioning of an NTSC coder and decoder with the help of a neat block diagram. 10

5. (a) Draw the block diagram of a cable TV system and explain the functioning. 10
 (b) What is a pattern generator ? Draw the EIA test pattern and explain how it is useful in troubleshooting of TV receiver. 10

6. (a) Draw a neat block diagram of a digital TV system and explain the functioning. 10
 (b) What is interlaced scanning ? Explain in detail. How it is better than sequential scanning ? 10

7. Write short notes on any three of the following :- 20
 (a) CC TV
 (b) Fly back transformer
 (c) HDTV
 (d) Frequency interleaving.