

**Solution**

**Q.2** a. Explain with the block diagram, the working of Cable TV distribution system. (8)

**Answer : Refer Pages 11 to 13 from Text Book**

b. What is meant by picture element? Explain horizontal and vertical scanning with neat diagrams. (8)

**Answer : Refer Pages 26 to 28 from Text Book-I.**

**Q.3** a. What are the main functions of Phosphor Screens? Explain briefly the two types of Phosphor Screens used for color picture tubes. (8)

**Answer : Refer Pages 81 & 82 from Text Book-I.**

b. Explain briefly various picture tube precautions while installing or removing the picture tube. (8)

**Answer : Refer Pages 95 & 96 from Text Book-I.**

**Q.4** a. Name the three components of composite video signal and explain the construction of the Composite video signal with neat diagram. (8)

**Answer : Refer Pages 141 & 142 from Text Book-I.**

b. Explain any **TWO** of the following raster distortions with suitable diagrams:-  
(i) Incorrect Aspect Ratio  
(ii) Pincushion and Barrel distortion  
(iii) Trapezoidal distortion (4+4 = 8)

**Answer : (i) Refer Page 131 from Text Book-I.**

**(ii) Refer Page 131 from Text Book-I.**

**(iii) Refer Pages 131 & 132 from Text Book-I.**

**Q.5** a. What is meant by color addition? Draw the color wheel diagram? Explain the importance of Primary and Complementary colors in color TV. (8)

**Answer : Refer Page 175 from Text Book-I.**

b. With the help of a block diagram, explain the method of decoding the picture information in color TV. (8)

**Answer : Refer Pages 166 to 168 from Text Book-I.**

**Q.6** a. Describe the color sync burst with neat diagram. (7)

**Answer : Refer Pages 182 & 183 from Text Book-I.**

- b. Explain the following concepts with reference to color subcarrier frequencies in color TV:-
- (i) Horizontal Scanning Frequency
  - (ii) Vertical Scanning Frequency
  - (iii) Color Frequency (3×3 = 9)

**Answer : (i) Refer Page 189 from Text Book-I.  
(ii) Refer Page 189 from Text Book-I.  
(iii) Refer Page 189 from Text Book-I.**

- Q.7** a. Write short notes on any **TWO** of the following:-
- (i) Vector Display
  - (ii) Vectorscope
  - (iii) Monoscope signals (5+5=10)

**Answer : (i) Refer Pages 205 & 206 from Text Book-I  
(ii) Refer Page 206 from Text Book-I.  
(iii) Refer Pages 201 & 202 from Text Book-I.**

- b. Compare the causes and effects for streaking and ringing in the picture. (6)

**Answer : Refer Pages 200 & 201 from Text Book-I.**

- Q.8** a. With the help of a block diagram, explain the working of chroma section used in color TV receiver. (8)

**Answer : Refer Pages 341 & 342 from Text Book-I.**

- b. Explain the significance of color killer circuit in color TV receivers. (8)

**Answer : Refer Pages 347 & 348 from Text Book-I.**

- Q.9** Write short notes on the following:-
- (i) TV receiver servicing
  - (ii) Servicing of Video Cameras (2×8 = 16)

**Answer : (i) Refer Pages 414 to 416 from Text Book-I.  
(ii) Refer Pages 423 to 426 from Text Book-I.**

### TEXT BOOK

Basic Television and Video Systems, Bernard Grob and Charles E. Herndon, Sixth Edition, 1999, McGraw Hill International Edition