

Roll No. . . . .

Total Pages : 2

**8712**

**BT-7/DX**  
**TELEVISION ENGINEERING**  
**Paper : ECE-403(E)**

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

**UNIT-I**

1. (a) Explain arbitrary picture signal details of three scanning lines with different average brightness levels & picture to sync ratio  $P/S = 10/4$ . (10)
- (b) Explain reception of vestigial side band signal discussing video detector output vs modulating frequency characteristics. (08)
- (c) Justify the number of scanning line required are approximately 860. (02)
2. (a) Explain channel bandwidth for colour signal transmission. (10)
- (b) Explain sync pulse separation and generation of vertical and horizontal sync. pulses. (05)
- (c) Explain receiver controls for monochrome and colour televisions. (05)

**UNIT-II**

3. (a) Explain a 510 cm monochrome picture tube. (15)
- (b) Give a picture tube circuit and associated controls of an monochrome TV. (05)

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4. (a) Explain in brief block-diagram of an TV Transmitter. (15)  
(b) Give brief description of a Vidicon camera tube. (05)

### UNIT-III

5. (a) Explain Three colour theory, Subtractive colour mixing theory and Grassman's law. (15)  
(b) Give drawbacks of Delta-gun colour picture tube. (05)
6. (a) Explain a Precision-in-line (PIL) colour picture tube. (15)  
(b) Explain block diagram for the production of Luminance and colour - difference signals. (05)

### UNIT-IV

7. (a) Explain cable television covering the aspects of MATV, and CATV. (15)  
(b) Explain a direct reception system from a satellite. (05)
8. Write short notes on any *three* of the following :
- (a) Plumbicon TV camera tube.  
(b) Yagi antenna.  
(c) Camcorder.  
(d) Digital TV. 5×4=20
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