

B.E. (Elect. & Telecommunication /  
Elect. & Communication Engineering) Seventh Semester (C.B.S.)  
**Television & Video Engineering**

P. Pages : 2

NRJ/KW/17/4591

Time : Three Hours



Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Assume suitable data whenever necessary.
  9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Draw and Explain composite video signal. 7
- b) If an n-line television system sends f pictures per second, the aspect ratio is a, Line blanking Period is a fraction  $\ell$  of each Line period, field blanking is a fraction m of each field period and K the Kell factor, Show that the bandwidth required for video signal is given by 6
- $$\frac{n^2(1-m)afk}{2(1-\ell)}$$

**OR**

2. a) Draw and Explain how luminance and colour difference signal are produced from camera output. 7
- b) Calculate hue, saturation and luminance for the following combination of colours: 6  
Green = 0.3 lumen, Blue = 1 lumen and Red = 1 lumen .
3. a) Draw and Explain PAL TV Receiver. 7
- b) Draw and Explain block diagram of a pattern Generator. 6

**OR**

4. a) Write short note on: TV Transmitter Antennas. 7
- b) Compare NTSC, PAL and SECAM system. 6
5. a) Explain in details advantages and disadvantages of Digital TV. 6
- b) Draw and explain the block diagram of MAC Encoder. 7

**OR**

6. a) Give the different standards of HDTV. 6  
b) Explain in detail digital video compression techniques. 7
7. a) Write short note on **any one**. 7  
i) CCTV  
ii) CATV  
b) Draw and Explain Direct to Home TV system. 6
- OR**
8. a) Describe in detail the concept of 3D Television system. 6  
b) Draw and Explain Digital TV satellite system. 7
9. a) What are the features of IPTV? Explain the architecture of IPTV. 7  
b) Explain video Intercom system using neat block diagram. 7
- OR**
10. a) Explain the 3G mobile TV system. 6  
b) Explain video projector with neat diagram. State the specification of it. 8
11. a) Explain the features of camcorder. What is a Digicam. 8  
b) Compare between LCD TV and Plasma TV. 6
- OR**
12. a) Draw and Explain block diagram of DVD player. 8  
b) Give comparison between VCD, DVD and Blue Ray Disc. 6

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