

Television & Video Engineering.

[REVISED COURSE]

CON/4861-06.

YM-7153

(3 Hours)

[Total Marks : 100

27/12/06

- N.B. : (1) Question No.1 is compulsory.
 (2) Attempt in all five questions including Q.No.1.
 (3) Draw neat sketches/diagram wherever necessary.
 (4) Figures to the right indicate full marks.
 (5) Assume suitable data if necessary.

1. (a) Explain the following terms - 12
 - (i) Persistence of vision
 - (ii) Decay time of phosphors
 - (iii) Dark current
 - (iv) Transference of electron beam. 8
- (b) Attempt any two :
 - (i) What is the Importance of chromaticity diagram ?
 - (ii) What is meant by compatibility of a color TV system ?
 - (iii) What is the Importance of Back porch in CVS ?
2. (a) What is the role of R.F. Tuner circuit in TV Receiver ? With the help of block diagram explain working of UHF Tuner. 10
- (b) Draw CVS waveform for at least two successive lines and explain the term's associated with it with ref. to the same diagram, explain the importance of pedestal height. 10
3. (a) Sketch a practical video detector circuit incorporating the following features and explain the working : 8
 - (i) effective IF filtering
 - (ii) suppression of harmonics
 - (iii) separation of inter carrier sound signal
 - (iv) frequency compensation.
- (b) List the different AGC methods and explain in detail any one method used in TV. 7
- (c) Why (G-Y) colour difference signal is not considered for colour signal transmission ? 5
4. (a) Draw block diagram of PAL TV receiver and explain the working and functions of each block. 10
- (b) Compare the performance of Delta-gun and Trinitron and PIL tubes. 10
5. (a) Describe new TV std. adopted for HDTV service, explain MUSE (multiple sub-Nyquist sampling incoding) and its advantages. 10
- (b) Explain the working of Trinitron Colour picture tube; In colour signal transmission why is the "Colour Burst" required. 10
6. (a) Draw and explain the encoding scheme in SECAM system; explain theory associated with in brief. 10
- (b) Which blocks of a TV Receiver are adjusted by following controls (any five) : 5
 - (i) Channel selector
 - (ii) Brightness control
 - (iii) Contrast control
 - (iv) Volume control
 - (v) Horizontal hold
 - (vi) Vertical hold
 - (vii) Saturation OR colour control.
- (c) Give reason's : 5
 - (i) 4:3 is the aspect ratio for TV.
 - (ii) All TV std's have odd number of line's.
7. Write notes on (any four) : 20
 - (a) Kell factor
 - (b) Digital TV
 - (c) CCD Camera
 - (d) Fax Receivers (Group 3)
 - (e) Picture IF and Sound IF frequency TV system