

IV B.Tech II Semester Supplementary Examinations, April/May 2005
T V ENGINEERING
(Electronics & Communication Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Define aspect ratio, contrast, brightness and resolution.
(b) How is flicker eliminated by using interlaced scanning?
(c) Derive the video bandwidth requirement for 625 line system.
2. (a) What do you understand by active and blanking periods in horizontal and vertical scanning? Give the periods of nominal, active and retraced intervals of horizontal and vertical scanning as used in the 625 line system.
(b) Discuss about equalising pulses.
3. (a) Explain briefly why an electron multiplier is preferred over conventional amplifiers for amplifying the video signal at the output of the camera tube.
(b) In an Image orthicon, explain the function of the wire-mesh screen and why reason out it is located very close to the target plate.
4. Draw the block diagram of an IF modulated TV transmitter and briefly explain the operation.
5. (a) Why trap circuits are added in video amplifier to attenuate frequency Spectrum occupied by FM sound signal? What is the undesired effect of sound signal in reproduced picture?
(b) Discuss relative merits of cathode and grid modulation of the picture tube. Explain why cathode modulation is considered superior to grid modulation.
6. (a) What is AGC? What are the advantages of using AGC in TV Receiver?
(b) Describe how AGC is applied in transistor amplifier.
7. (a) The requirement of y-signal in color transmission
Prove that $(G - Y) = -0.51 (R - Y) - 0.19 (B - Y)$.
(b) Explain the method used for production of the color difference signal.
8. (a) Compare the performance and complexity of the NTSC and PAL systems.
(b) What are the different types of cables and networks used in cable TV?
