Code No: NR310403 **NR**

III B.Tech I Semester Supplementary Examinations, November 2005
TV ENGINEERING
(Electronics & Communication Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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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. [4+6+6]
2. (a) Clearly explain different components in composite video signal.
   (b) Justify the need for pre and post equalizing pulses. [8+8]
3. (a) What is meant by the resolving power of a camera tube? How is it specified?
   (b) What is meant by the gamma of a camera tube? Explain how the gamma of the camera tube, the camera signal chain and the picture tube are matched to give a overall faithful reproduction of the picture. [6+10]
4. (a) Draw the block diagram of high level modulation transmitter and explain the function of each block.
   (b) What is IF modulation? Explain the criteria of selection of IF frequency.[8+8]
5. (a) Draw the simplified circuit diagram of the vertical deflection amplifier employed in TV receiver and explain its operation.
   (b) Explain the tuner operation for Channel 4 of 625 line system. [8+8]
6. (a) What is AFC in sync separator circuit? What are the methods to implement AFC?
   (b) Draw the basic block structure of AFC and explain how control voltage is developed. [8+8]
7. (a) How are the luminance and color difference signals produced in the output of a color camera?
   (b) Explain the corrections that are normally made to achieve almost distortion less reproduction of color on the screen of a PIL tube. [6+10]
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? [8+8]

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