R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November - 2013
Television Engineering
(Electronics and Communication Engineering)

Time: 3 Hours   Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks
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1.a) Justify the choice of rectangular frame with width to height ratio equal to 4/3 for TV transmission and reception.
  b) Draw the block diagram of the TV transmitter and explain the function of every block in detail.
  c) Explain the odd line interlaced scanning procedure.   [4+7+4]

2.a) Justify why the negative modulation is used for TV transmission? Explain the merits and demerits of negative modulation.
  b) What is VSB? Why it is used for transmission of TV picture signals.   [8+7]

3.a) What is AGC? Explain the non keyed AGC system. Also discuss the merits and demerits of it.
  b) Explain the principle of FM detector. Describe how FM detection takes place in a foster seely FM detector. Also draw the phasor diagram.   [8+7]

4.a) Explain the basic principle of remote control of receiver function. How an infrared remote transmitter operates to initiate various receiver functions.
  b) Draw and explain the basic sync separator circuit employing a transistor. Also explain the effect of a strong noise pulse on sync output with necessary waveforms.   [8+7]

5. Explain the following
   i) Grassman's Law
   ii) Gamma correction
   iii) Frequency interleaving   [5+5+5]

6.a) Explain the operation of the colour killer circuit.
  b) Discuss the features of the PAL system. Draw the PAL encoder and explain the operation.   [7+8]

7.a) What is AFC? Explain the AFC circuit with the help of a block diagram.
  b) Draw and explain the circuit used to separate U and V colour signal phasors with a delay line? Also draw the phasor diagram.   [8+7]

8.a) How 'DTH' TV system is different from the basic digital transmission –reception system? What are the merits and limitations of it?
  b) What are the different stages of digital satellite transmission? Explain the function of each stage.   [7+8]

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