BOARD OF TECHNICAL EDUCATION

PORVORIM-GOA

May/June, 2009 Examinations

Programme: ELECTRICAL & ELECTRONICS ENGINEERING

Course/Subject: ELEMENTS OF COMMUNICATION SYSTEMS (S3024)

Time Duration: 3 Hrs. Max. Marks: 75

INSTRUCTIONS: 1.All Questions are compulsory.
2.Figures to the right indicate full marks.
3.Assume suitable additional data if required.

Q.No. 1. Answer ANY FIVE of the following:- (5x3=15)

a) Define Noise & Signal to noise ratio.
b) Explain the need for modulation in Communication system.
c) Compare AM & FM.
d) Explain the difference between low level Am transmitter & high level Am transmitter.
e) Explain the working principle of superheterodyne radio receiver.
f) List various merits of using negative modulation technique in T.V. transmission.

Q.No. 2. Answer ANY TWO of the following:- (2x6=12)

a) List various types of Internal noise & explain.
b) List various frequency bands used in Communication Systems and also explain the applications of each frequency bands.
c) Define AM. Explain the basic principle of AM with neat waveforms.

Q.No. 3. Answer ANY TWO of the following:- (2x6=12)

a) Explain frequency spectrum of FM wave.
b) With the help of neat circuit diagram, explain the operation of basic diode detector. What are the limitations of the same?
c) Explain operation of Balanced slope detector circuit used for FM demodulation.

Q.No. 4. Answer ANY TWO of the following:- (2x6=12)

a) Explain the operation of stereophonic FM broadcast transmitter with the help of neat block diagram.
b) Draw the block diagram of high level AM transmitter and explain the function of each block.
c) Explain the function of RF amplifier & IF amplifier in superheterodyne receiver. What is the value of IF used in AM receiver ?

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Q.No. 5. Answer ANY TWO of the following:- (2x6=12)

a) Explain the concept of AGC in radio receiver.

b) Explain in detail the working principle of T.V. Camera.

c) Explain the construction & operation of Yagi-Uda antenna with neat diagram and radiation pattern.

Q.No. 6. Answer the following:- (2x6=12)

a) Explain simplified block diagram of Monochrome T.V. transmitter & explain function of each blocks.

b) With the help of block diagram, explain sound section of T.V. receiver.

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