BACHELOR OF SCIENCE (COMPUTER SCIENCE) (CBCS - 2018 COURSE)
S.Y.B.Sc.(Computer Science) Sem-III : WINTER :- 2021
SUBJECT: PRINCIPLES OF COMMUNICATION

Day : Monday
Date 31-01-2022   W-20096-2021   Time : 10:00 AM-01:00 PM
Max. Marks: 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.

Q.1 Answer **ANY TWO** of the following. (12)
  a) Explain multichannel TDM system with necessary diagram.
  b) Draw the block diagram of communication system and explain the function of each element.
  c) What is delta modulation? Explain the block diagram of delta modulation system.

Q.2 Answer **ANY TWO** of the following. (12)
  a) Explain pulse code modulation with necessary waveforms.
  b) Define synchronous transmission. Explain synchronous transmission with necessary block diagram.
  c) Explain the formation of 12 channel group using FDM technique.

Q.3 Answer **ANY TWO** of the following. (12)
  a) Define the following parameters of antenna:
     i) Polarization   ii) Gain   iii) Radiation intensity
     iv) Radiation pattern   v) Directivity of antenna   vi) Bandwidth.
  b) What is PSK? Explain QPSK with constellation diagram and waveforms.
  c) Explain amplitude modulation with respect to equation, modulation index and frequency spectrum.

Q.4 Answer **ANY THREE** of the following. (12)
  a) Explain the working of diode demodulator with a neat circuit diagram and waveforms.
  b) State four points of difference between AM and FM.
  c) Explain the handovers in GSM.
  d) Explain the important features of CDMA.

Q.5 Attempt **ANY FOUR** of the following. (12)
  a) State any three applications of mobile communication.
  b) i) State Nyquist theorem.
     ii) Define baud rate
  c) i) Draw a diagram showing output of FSK modem sending the data : 10101100.
     ii) Draw the output waveforms for sending data: 10101110 using BPSK modem
  d) State three points of difference between wired and wireless communication.
  e) Differentiate between FDM and TDM.
  f) State functions of MTSO.

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