BACHELOR OF SCIENCE (COMPUTER SCIENCE) (CBCS - 2018 COURSE)
S.Y.B.Sc.(Computer Science) Sem-III :SUMMER- 2022
SUBJECT : PRINCIPLES OF COMMUNICATION

Day : Thursday   Time : 03:00 PM-06:00 PM

Date : 14-07-2022   **S-20096-2022**   Max. Marks : 60

N.B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.

Q.1   Answer **ANY TWO** of the following: **(12)**

a) With neat block diagram explain the elements of communication system.
b) Explain the general architecture of GPRS with necessary block diagram.
c) What is FDM? Explain the formation of 12 channel group.

Q.2   Answer **ANY TWO** of the following: **(12)**

a) Explain the concept of amplitude demodulator using diode.
b) Define the following parameters of antenna:

i)	Polarization	**ii)**	Gain
iii)	Radiation intensity	**iv)**	Radiation pattern
v)	Bandwidth	**vi)**	Directivity of antenna

c) With the help of block diagram and phase diagram explain the working of QPSK modulator.

Q.3   Answer **ANY TWO** of the following: **(12)**

a) Explain amplitude modulation with respect of the following points : AM waveforms, modulations index and frequency spectrum.
b) With the help of neat diagram explain GSM architecture.
c) Explain pulse code modulation with necessary waveforms.

Q.4   Answer **ANY THREE** of the following: **(12)**

a) Explain the concept of cellular system.
b) Define modulation. Explain dual polarity PAM.
c) Explain communication based on direction of transmission modes with one example of each.
d) **i)** Define FSK. Draw a diagram showing output of FSK modem sending the data 10101100.
      ii) Define ASK. Draw a diagram showing output of ASK modem sending data 11011010.

Q.5   Answer **ANY FOUR** of the following: **(12)**

a) What is constellation diagram? Draw it for 4-QAM.
b) State three points of difference between TDMA and FDMA.
c) State any three applications of Bluetooth.
d) State the functions of MTSO.
e) Define the following : **i)** Nyquist theorem
                              ii) Baud rate
f) State any three application of RFID.

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