S.Y. B. SC. (COMPUTER SCIENCE) SEM –III (CBCS - 2016 COURSE) : WINTER - 2017

SUBJECT : PRINCIPLES OF COMMUNICATION

Day : **Wednesday** Time : **11.00 A.M. TO 02.00 PM**

Date : **08/11/2017** Max. Marks : 60

W-2017-0724

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Use of non programmable **CALCULATOR** is allowed.
4) Draw neat and labeled diagrams **WHEREVER** necessary.

Q.1 Answer **ANY TWO** of the following: **[12]**

a) Explain with block diagram elements of communication system.
b) Explain amplitude modulation with respect to following points AM waveform, modulation index, frequency spectrum.
c) Explain the concept of FDM and TDM.

Q.2 Answer **ANY TWO** of the following: **[12]**

a) What is pulse code modulation? Explain PCM with necessary diagrams.
b) Draw and explain well labeled block diagram of GPRS system.
c) Differentiate between Amplitude Modulation and Frequency Modulation.

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 serial communication? Explain Asynchronous transmission in detail.
c) Explain the concept of amplitude demodulator using diode.

Q.4 Answer **ANY THREE** of the following: **[12]**

a) What is RFID? Explain different types of RFID.
b) What is modulation? Explain phase modulation.
c) State any four features of TDMA.
d) Explain the concept of Quadrature phase shift keying with constellation diagram.

Q.5 Answer **ANY FOUR** of the following: **[12]**

a) Define the following:
i) s/n ratio
ii) Channel Bandwidth
iii) Baud rate
b) State three points of difference between QAM and QPSK.
c) Explain any three applications of Bluetooth.
d) Determine the percent modulation for an FM wave with a frequency deviation of 10KHz if the maximum deviation allowed is 25KHz.
e) Explain the basic structure of mobile telephone network
f) Explain handover in GSM.

* * * * *