

**B. Tech. Sem - III (Computer Engg.) 2014 COURSE) (CBCS) :
SUMMER - 2019**

SUBJECT : FUNDAMENTAL OF DATA COMMUNICATION

Day: Thursday
Date: 09/05/2019

S-2019-2556

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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Q.1 Define data communications. Draw basic block diagram of data communication systems and explain different components of system. **(10)**

OR

Q.1 What is Bandwidth? How is bandwidth related to the data carrying capacity of transmission channel? Also calculate the maximum bit rate for a channel having bandwidth 3200 Hz and S/N ratio 20 db. **(10)**

Q.2 Define line coding. Describe Unipolar NRZ, POLAR NRZ-L, Bipolar AMI and Manchester encoding by applying on the information sequence 101011100. **(10)**

OR

Q.2 What is encoding? Explain the different encoding schemes with waveforms? **(10)**

Q.3 Define block coding and clearly explain how error is detected and corrected using block coding technique. **(10)**

OR

Q.3 What is the purpose of ARQ? What are the three types of ARQ Protocols? List the basic elements of ARQ? Explain any one type of ARQ in detail. **(10)**

Q.4 State and explain the functions and services offered by all the layers of the ISO OSI reference model. **(10)**

OR

Q.4 Explain various station types and configurations used in HDLC data link level protocol in detail. **(10)**

Q.5 Discuss the principle used in transmitting light waves through a fiber optic cable. **(10)**

OR

Q.5 What are the different types of Optical Fiber? List the advantages and disadvantages of Optical Fiber. **(10)**

Q.6 Explain IEEE 802.11-Wireless LAN architecture with diagram. **(10)**

OR

Q.6 Define DSSS and explain how it achieves bandwidth multiplexing. **(10)**

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