

Roll No.

67109

MCA 3rd Semester (CBCS Scheme)

w. e. f. Dec. 2017-18

Examination – December, 2018

**DATA COMMUNICATION AND COMPUTER
NETWORKS**

Paper : 17MCA33C4

Time : Three Hours] [Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) What is Transmission medium ?
- (b) What is Local area network ?
- (c) What is the use repeaters and Bridge ?
- (d) What is the use of Data link layer of internet ?
- (e) What is World Wide Web ?
- (f) What is Frame relay ?
- (g) Explain Pulse code modulation.
- (h) What is Internet protocol stacks ?

UNIT - I

2. (a) What is Data communication ? Explain the components of a Data communication network. Also explain the characteristics of an effective data communication system in detail.
(b) Explain in detail Asynchronous and synchronous transmission. Also Differentiate between analog and digital transmission of data in detail.
3. (a) What is multiplexing ? Differentiate between frequency division multiplexing and time division multiplexing in detail.
(b) Explain Data modulation and its techniques in detail.

UNIT - II

4. What is OSI model ? Explain duties of different layers of OSI model in detail. Also Compare OSI and TCP/IP model in detail.
5. (a) What is Computer network ? Explain wide area network and wireless network in detail.
(b) Explain the following in detail :
 - (i) HUB and Switch
 - (ii) Router and Gateways

UNIT - III

6. (a) What is X.25 ? Explain in details. Also list the types of packet formats supported by it.
(b) What is Asynchronous Transfer Mode(ATM) ? Explain the different layers of ATM with their functions.
7. (a) What is HDLC ? Explain in detail. Also name the three modes of operations defined for HDLC Protocol.
(b) Write detail note on CSMA/CD Protocol.

UNIT - IV

8. What is Switching ? Explain different types of communication switching techniques in detail.
9. (a) What is Transport Layer ? Explain the frame format of TCP and UDP in detail.
(b) Write detail note on File transfer protocol and Electronic Mail in detail.