CBCS SCHEME

USN | | | | | | | | | | |

15CS46

Fourth Semester B.E. Degree Examination, Jan./Feb. 2023
Data Communication

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. What is Data Communication? List and explain the five components of Data Communication system. **(06 Marks)**

b. Explain OSI reference model with neat diagram. **(10 Marks)**

OR

2 a. What is Transmission Impairment? What are the causes of Impairments? **(07 Marks)**

b. What is Line coding? Outline the following code using Manchester and NRZ-L coding technique:

i) 1111 1111
ii) 0000 0000
iii) 0011 0011
iv) 01010101 **(09 Marks)**

Module-2

3 a. Explain the technique of PCM by taking amplitude -20 and +20 and levels = 8. **(10 Marks)**

b. Explain different transmission modes with diagrams. **(06 Marks)**

OR

4 a. With a neat diagram, explain FDM multiplexing technique. **(06 Marks)**

b. What is Switching? Explain datagram network and virtual-circuit networks. **(10 Marks)**

Module-3

5 a. Explain with an example of block coding method of error detection and error correction. **(06 Marks)**

b. Find the code word using CRC given dataword '1001' and generator '1011'. **(10 Marks)**

OR

6 a. Explain stop and wait ARQ protocol with neat diagram. **(10 Marks)**

b. Explain frame format and transition phases of point to point protocol. **(06 Marks)**

Module-4

7 a. With flow diagram, explain the working of CSMA/CD. **(08 Marks)**

b. Explain the following channelization techniques: i) TDMA ii) CDMA. **(08 Marks)**

OR

8 a. Explain the addressing mechanism of IEEE 802.11. **(08 Marks)**

b. What are the different categories of standard Ethernet explain each? **(08 Marks)**

Module-5

9 a. Explain different categories of satellite networks. **(06 Marks)**

b. With neat diagram explain IPV4 header format diagram. **(07 Marks)**

c. Write a note on cellular system. **(03 Marks)**

OR

10 a. Explain with neat diagram frame format of IPV6 datagram. **(10 Marks)**

b. Explain three different strategies devised by IETF to help the transition from IPV4 to IPV6. **(06 Marks)**

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