Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (EE) (2012 Onwards E-II) (Sem.–7)
NETWORK AND DATA COMMUNICATION
Subject Code : BTEE-804E
M.Code : 71940

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. A noiseless 4-kHz channel is sampled every 1 msec. What is the maximum data rate?

2. How do guided media differ from unguided media?

3. List two advantages and two disadvantages of having international standards.

4. Differentiate between FDM and WDM. Which multiplexing technique use digital signals?

5. What is the function of a modem? Why is it called a modem?

6. Difference between network ID and IP address.

7. What is data encapsulation?

8. Differentiate between Voice Network and Data Network.

9. Write the concept of layer protocols and layer interfaces.

10. Give the difference between packet switching and message switching.

SECTION-B

11. Briefly explain the coaxial cable, optical fiber, twisted pair and its applications.

12. Compare between datagram and virtual circuit subnet.

13. What is cyclic code and explain Cyclic Redundancy Check (CRC) code?

14. Write short notes on circuit switching, packet switching and message switching.

15. What are the different services that TCP provides to Applications program?

SECTION-C

16. What are the functions performed by each and every layer of OSI Model? Explain briefly.

17. Discuss briefly the following polar encoding schemes :

    a) NRZ

    b) RZ

    c) Manchester

    d) Differential Manchester

18. Write short notes on **any two** :

    a) X.21 communication standard

    b) Code division multiple access

    c) Wavelength-division multiplexing

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.