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

Total No. of Questions : 09

B.Tech.(Electrical& Electronics) (2011&2019 Batch E-II)

(Sem.–7,8)

NETWORKS AND DATA COMMUNICATION

Subject Code : BTEE-804E

M.Code : 71940

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION 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 has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answerbriefly :

a. What is network topology?

b. What do you mean by Shannon capacity?

c. Give the difference between shielded and unshielded twisted pair.

d. Differentiate bit rate and baud rate. Give the relation between them.

e. In CRC, if the data unit is 111111, the divisor is 1010, what is the dividend at transmitter?

f. State the issues of data link layer.

g. What is digital subscriber line?

h. What do you mean by FHSS?

i. Discuss the concept of redundancy in error detection.

j. Compare datagram and virtual circuits.

SECTION-B

2. Explain transmission impairments in detail.

3. What is circuit switched networks? How communication is established in these networks?

4. What is CRC error detection scheme? Explain how such a scheme is most efficient for the action of burst errors.

5. Using Differential Manchester encoding scheme, encode the bit sequence 0101101001.

6. a. Why frequency is divided in communication channels? Suppose there are three signal sources, each having bandwidth 300MHz. Find the minimum bandwidth of the path if 10MHz guard band are used.

   b. Explain the concept of WDM with neat diagram. Also give its applications.

SECTION - C

7. What is ISO-OSI reference model? Compare it with TCP/IP reference model. Why TCP/IP reference model is more popular than OSI model?

8. Describe in detail about the physical description, applications of the following:

   a. Co-axial cable

   b. Fibre optics

   c. Twisted pair cable

   d. Broadcast Radio

9. Write short notes on any two:

   a. FHSS

   b. IP protocol architecture

   c. FDM

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.