

Roll No.

Total No. of Pages :02

Total No. of Questions : 09

B.Tech.(EE)(2019 Onwards E-II)

B.Tech.(Electrical& Electronics) (2011&2012 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. Answer briefly :

- 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.