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

Total No. of Questions : 07

B.Sc. (IT) (Sem.–4)

COMPUTER NETWORKS

Subject Code : UGCA1913

M.Code : 79439

Date of Examination : 05-07-22

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 SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

a) What is the difference between simplex & half duplex?

b) What is the difference between baseband and broad band cables?

c) IP defines how many bits for representing an IP and MAC address?

d) What are the two types of transmission technology available?

e) What is the difference between the communication and transmission?

f) In which topology, if a computer's network cable is broken, whole network goes down.

g) For large networks which topology is used?

h) What does ISO stands for?

i) What is ISO OSI model used in?

j) Network cable lies on which layer?

SECTION-B

2. What are the various transmission media available? State advantages and disadvantages of each of them.

3. Explain different methods of error detection and error correction. Which method requires more number of bits and why?

4. Why is multiple access required in LAN technologies? Compare FDM, TDM, and SDM in terms of their ability to handle groups of stations.

5. The physical service is a non-confirmed service. If some data bits are lost during transmission over the interconnecting media, which layer detects their loss and takes recovery action? Explain this. Explain how does a store-and-forward system affect the delivery of data traffic?

6. What is the difference between synchronous communication and asynchronous communication? Also, state the difference between serial and parallel data transmission.

7. A bit stream 10011101 is transmitted using the standard CRC method described in the text. The generator polynomial is $x^3 + 1$. Show the actual bit string transmitted. Suppose the third, bit from left is inverted during transmission. How the error does get detected at receiver's end?

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