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

Total No. of Questions : 07

B.Sc. (IT) (Sem–4)

COMPUTER NETWORKS

Subject Code : UGCA-1913

M.Code : 79439

Date of Examination : 02-06-2023

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. Answer very briefly :

a) What is parallel and serial transmission? Give examples.

b) Draw a tree and star topology and explain the features of both.

c) Outline the benefits of message switching communication technique.

d) What is the purpose of a transport layer in OSI model?

e) Write the characteristics of Frequency and Time-division multiplexing.

f) What is Remote Procedure Call?

g) Define Internetworking and role of router and gateway.

h) Outline the features of TCP and UDP protocols.

i) What is WWW and FTP?

j) Discuss the design issues in network layer.

SECTION-B

2. Explain the wired transmission technologies for communication channels elaborating their key specifications and features.

3. Discuss the overlapping of layers in OSI and TCP/IP reference model for computer networks. Also, describe the function of MAC sub layer.

4. What is collision detection and collision avoidance? Briefly explain the working of CSMA/CD protocol using a sequence diagram.

5. Describe the working of link-state and distance-vector based shortest path routing algorithms. Also, highlight about the optimality principle of routing.

6. Discuss the function of various elements of transport protocols, i.e., addressing, connection establishment and release, flow control and buffering.

7. Explain the various functions of the session layer in detail and describe how token management is helpful for synchronization.

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.