

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –IV EXAMINATION –SUMMER-2019

Subject Code:2640001

Date: 14-05-2019

Subject Name: Fundamentals of Networking

Time:10.30 am to 1.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** 1. Differentiate between OSI and TCP/IP model. **02**
2. List any two advantages of layering mechanism. **02**
3. Differentiate between connection-less and connection-oriented transfer. **02**
4. Framing is the responsibility of _____ layer in OSI Model. **01**
- (b)** 1. What are the differences between Internet and WWW? **02**
2. LANs are usually broadcast networks. Comment. **02**
3. A WAN traffic is usually store-and-forward type. Why? **02**
4. _____ is a device that reshapes a digital signal. (Amplifier, Repeater) **01**
- Q.2 (a)** Define a Computer Network. Explain its components in detail. **07**
(b) What is Modulation? List modulation techniques and explain any one in detail. **07**
- OR**
- (b)** Explain Microwave communication in detail. **07**
- Q.3 (a)** 1. Explain any two Disadvantages of layering. **03**
2. Provide any four differences between LAN and WAN. **04**
- (b)** 1. Write any two differences between a TCP/IP and an OSI model. **03**
2. Provide any three differences between sensor networks and MANets. **04**
- OR**
- Q.3 (a)** 1. Explain the term distributed system. How it is different from networks? **03**
2. List any three obstacles in implementing the home networks. **04**
- (b)** 1. Give any two differences between a client server and a peer to peer system. **03**
2. Give three differences between a switch and a router. **04**
- Q.4 (a)** 1) List and explain the services provided by IEEE 802.11 standard. **03**
2) Write a note on: Binary Exponential Back-off Algorithm. **04**
- (b)** 1) Explain the Go-Back-N and Selective reject ARQ technique with advantages and disadvantages. **03**
2) Explain AODV algorithm. **04**
- OR**
- Q.4 (a)** 1) Why was Manchester Encoding chosen for first version of Ethernet? **03**
2) Explain Connection-oriented and Connection-less services. **04**
- (b)** 1) Write the functions of application layer. **03**
2) Explain the fast recovery algorithms. **04**

- Q.5 (a)** 1) Discuss the three-way handshake technique. **03**
2) Write the applications of computer network. **04**
- (b)** 1) Explain the architecture of WWW. **03**
2) Explain the duties of Physical Layer. **04**
- OR**
- Q.5 (a)** 1) Write the duties of Transport layer. **04**
2) Explain the classification of network on the basis of scope. **03**
- (b)** 1) What is Bluetooth? Explain its architecture **04**
2) What is distributed database? Write its advantages. **03**
