

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA INTEGRATED– SEMESTER-IV EXAMINATION –SUMMER-2020****Subject Code:2648603****Date:06-11-2020****Subject Name:Computer Networking (CN)****Time:10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

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

- Q.1 (a)** Write any one major difference between following **07**
1. TCP and UDP
 2. OSI and TCP/IP
 3. Switching and Routing
 4. Classic Ethernet and Fast Ethernet
 5. Analog and Digital Signal
 6. Symmetric and Asymmetric Connection close
 7. Persistent and Non persistent Connection in HTTP
- (b)** Explain the following terms: **07**
1. Modulation
 2. Bit Rate
 3. Filters
 4. Logical Link Layer
 5. TTL
 6. Flooding
 7. Fully qualified Domain Name
- Q.2 (a)** (i) Write any two advantages and one limitation of layering concept. **03**
- (ii) Explain any two applications of computer network. **02**
- (iii) Categories the computer network based on communication type and explain in brief. **02**
- (b)** 1. Write any three differences between multimode and single mode fiber. **07**
2. What is a Hidden station problem? How RTS and CTS help to resolve this problem?
- OR**
- (b)** 1. Explain any two characteristics of Radio Wave and Microwave. **07**
2. Write any three differences between Copper Cable and Fiber optics cable.
- Q.3 (a)** Explain Wireless communication using satellite. **07**
- (b)** Explain working of Go-Back-N protocol in detail with cumulative acknowledgement. **07**
- OR**
- Q.3 (a)** What is Multiplexing? Explain working of FDM & TDM with suitable diagram. **07**
- (b)** Explain working of Selective Repeat protocol in detail with window size. **07**
- Q.4 (a)** Explain Link State Routing Algorithm in detail with the format of link state packet. **07**
- (b)** 1. Explain how throughput increases in Slotted Aloha compared to Aloha? **07**
2. Explain Binary Exponential Back off Algorithm.
- OR**
- Q.4 (a)** Explain 802.3 Ethernet Frame structure in detail **07**

- (b) Explain Distance Vector Routing Algorithm with its count to infinity problem with example. **07**
- Q.5** (a) Discuss the role of three-way handshake in establishing a connection. Explain three-way handshake does not work for connection close. Why? **07**
- (b) 1. Explain Bluetooth Architecture in detail with appropriate diagram. **07**
2. What are proxies? What is the advantage of having a proxy?
- OR**
- Q.5** (a) What is Congestion? How it is handled at Transport Layer? Explain Fast Recovery, MDCA and AIMD. **07**
- (b) 1 Explain in brief HTTP query and response using diagram? **07**
2. Give at least three advantages of hierarchy used in DNS.
