Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA Integrated- SEMESTER– V EXAMINATION – WINTER 2015

Subject Code: 4450603 **Date: 04/12/2015**

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)** Explain the followings **07**

1. Critical Angle w r to fiber optics
2. Bit Rate
3. Piggybacking
4. Logical Link Layer
5. Tunneling
6. Delayed Duplicate
7. Fully qualified Domain Name

(b) Write any one major difference between **07**

1. TCP and UDP
2. OSI and TCP/IP
3. Go-Back-N and sliding Window Protocol
4. ALOHA and Slotted ALOHA
5. Connection oriented and Connection less Forwarding
6. Symmetric and Asymmetric Connection close
7. Persistent and Non persistent Connection

Q.2 **(a)**

1. Write any two disadvantage of layering. **02**
2. Explain any three applications of Computer Networks. **03**
3. Explain any two errors in transmission. **02**

(b)

1. Write any two differences between multimode and single mode fiber. **02**
2. What is a Hidden station problem? How RTS and CTS help to resolve this problem? **05**

OR

(b)

1. What is radio wave? Write any two characteristic of radio wave. **03**
2. Write any three differences between Copper and Fiber optics cable. **03**
3. Define Microwaves. **01**

Q.3 **(a)**

1. Explain any one framing technique with example. **03**
2. Explain the Go-Back-N protocol. **04**

(b)

1. Explain the role of LLC in MAC architecture. **02**
2. Discuss the two varieties of classic Ethernet. **05**

OR

Q.3 **(a)**

1. Explain any one error detection technique with example. **03**
2. Explain the selective repeat protocol. **04**

(b)

1. What are the two modes of 802.16? **02**
2. What are the service classes in 802.16? **05**

Q.4 **(a)**

1. Why does Random Early Detection discard packets at random in network layer? **06**
2. What is admission control? **01**

	(b)	Discuss the role of three-way handshake in establishing a connection. Plain three-way handshake does not work for connection close. Why?	**07**

OR

Q.4	**(a)**	What is the cause of count to infinity problem in distance vector routing algorithm? How it is solved in link state algorithm?	**07**
	(b)	1. Explain any four important duties of Transport layer.	**04**
		2. Explain Fast Recovery.	**03**
Q.5	**(a)**	What is DNS? What is the primary purpose of DNS? What are the desirable properties of DNS?	**07**
	(b)	What is modulation? Explain any two types of modulation?	**07**

OR

Q.5	**(a)**	What are proxies? Why are they unique in HTTP? What is the advantage of having a proxy? Why it is provided?	**07**
	(b)	Explain error correction technique with example.	**07**

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