

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA – SEMESTER – IV • EXAMINATION – WINTER - 2017

Subject Code: 2640001**Date: 28-12-2017****Subject Name: Fundamental of Networking****Time: 02:30 pm to 05:00 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)** Answer in short . **07**
1. What is DNS poisoning?
 2. What are two most important functions of the network layer?
 3. The fiber optic cable is based on _____ principle.
 4. Write one disadvantage of Layering mechanism.
 5. Write the relation between number of levels and MDR for noiseless channel.
 6. Repeater Vs Amplifier
 7. Router is working at _____ layer in OSI layer Architecture.
- (b)** Explain the following terms . **07**
1. Piggybacking
 2. Window Advertisement
 3. Infrastructure Mode in Wireless Network
 4. broadcast network
 5. LEO
 6. Bandwidth
 7. Network Interface Card
- Q.2 (a)** Explain the functionality of four layers from bottom of OSI in details. **07**
- (b)** 1. Differentiate (any two) **06**
- a. Analog Vs Digital signaling
 - b. Hub Vs Switch
 - c. Connection oriented Vs Connection Less communication
2. Explain : Baud rate **01**
- OR**
- (b)** 1. Explain how the 802.11 works in PCF mode **04**
2. Explain how flow control is performed at data link layer **03**
- Q.3 (a)** Differentiate **04**
1. Broadcast Vs Peer to Peer Network **04**
 2. Radio waves Vs Microwaves **03**
- (b)** 1. Explain hidden station problem and exposed station problem and how RTS and CTS solve the problem? **04**
2. Explain the need of four address fields in 802.11 and show how those fields are used during transmission. Which flag fields are used for the same? How? **03**
- OR**
- Q.3 (a)** 1. Explain how wireless communication through satellite is possible? Compare LEO vs GEO for data transmission. **04**
2. Explain multi-mode Vs single mode Fiber Optics. **03**
- (b)** 1. What is Bluetooth? Explain its architecture. **04**
2. How distributed database is used during DNS implementation? Explain. **03**
- Q.4 (a)** 1. Explain Link state routing algorithm in detail. **04**

	2. Differentiate : GO BACK N vs Selective Repeat	03
(b)	1. What are the desired properties of DNS?	04
	2. Explain distance vector routing algorithm in brief.	03
	OR	
Q.4	(a) 1. Calculate Hamming code for 1100 0100 bit value (Use Even Parity). How Hamming code can be used to correct 1 bit error? Explain it by changing 1 bit from the above bit value.	07
	(b) 1. Explain AODV algorithm.	04
	2. Discuss the application of sensor network (any three)	03
Q.5	(a) 1. Explain why three way hand shake is chosen for TCP?	05
	2. Explain AAAA as CNAME record type.	01
	3. List out the name of sub layers of Data Link Layer.	01
	(b) Differentiate.	
	1. Fiber Optics Vs Satellite Communication	04
	2. Wired MAC Vs Wireless MAC	03
	OR	
Q.5	(a) 1. What contention in broadcast network? How Binary Back Off algorithm helps to solve the problem?	04
	2. How RTT is estimated in TCP?	03
	(b) 1. How TCP choose sequence number? How initial sequence number value is finalized for newly started and restarted device?	05
	2. Explain (a) Congestion Control (2) Flow Control	02
