Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2140709 **Date: 01/06/2017**

Subject Name: Computer Networks

Time: 10:30 AM to 01:00 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		**Answers the following questions.**	**14**
	1	What is the purpose of preamble in Ethernet frame?	1
	2	For n devices in a network,____ number of cable links required in a network	1
	3	What is MAC and IP address?	1
	4	The transport layer is responsible for _____ delivery of packet.	1
	5	What is checksum in error detection method?	1
	6	Define tunneling.	1
	7	What is subnet mask?	1
	8	What is virtual circuit network?	1
	9	Define the significance of traffic flooding in networks.	1
	10	What is the Hamming distance?	1
	11	Discuss Half duplex with example.	1
	12	What is framing?	1
	13	Subnet mask 255.255.0.0 belongs to _____class	1
	14	Define supernetting.	1
Q.2	**(a)**	Define and explain following terms: (a) Delay (b) Throughput (c) Loss	**03**
	(b)	Differentiate between Connection oriented and Connectionless services	**04**
	(c)	What is network topology? Explain different types of network topology	**07**
		OR	
	(c)	Explain CSMA/CD protocol in detail.	**07**
Q.3	**(a)**	Discuss the principles of reliable data transfer.	**03**
	(b)	Compare distance vector routing and link state routing algorithm.	**04**
	(c)	Write short note on DNS.	**07**
		OR	
Q.3	**(a)**	What is Multiplexing and Demultiplexing in computer networks.	**03**
	(b)	List the classes in classful addressing.	**04**
	(c)	Explain connection establishment and connection release in Transport protocols	**07**
Q.4	**(a)**	Explain datagram approach	**03**
	(b)	Differentiate broadcast and multicast with their functionalities.	**04**
	(c)	Draw and explain IPV4 datagram format in Detail	**07**
		OR	
Q.4	**(a)**	Define the following terms: (a)Hub (b) Switch (c) router	**03**
	(b)	How does NAT works? Explain.	**04**
	(c)	List and explain the services provided by the transport layer.	**07**
Q.5	**(a)**	Discuss the parity checks for error detection in data transfer.	**03**
	(b)	Compare UDP and TCP.	**04**
	(c)	Explain distance Vector routing algorithm.	**07**

OR

Q.5	**(a)**	Explain CRC with example.	**03**
	(b)	Compare pure ALOHA and slotted ALOHA protocol.	**04**
	(c)	An organization is granted a block starting with 190.100.0.0 /16. The ISP wants to distribute these addresses to three groups of customers as follows a) the first group has 64 customers :each needs 256 addresses. b) the second group has 128 customers :each needs 128 addresses. c) the third group has 128 customers :each needs 64 addresses. Design the sub blocks	**07**

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