

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 | 07 |
| | 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
