

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (New) • EXAMINATION – WINTER 2016

Subject Code: 2140709

Date: 19/11/2016

Subject Name: Computer Networks

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 Answer in short. 14**
- 1 What is end-to-end delay?
 - 2 What is Internet?
 - 3 Briefly explain the working of SMTP.
 - 4 How DNS is useful in Internet?
 - 5 What is Multiplexing in computer networks.
 - 6 What is subnet address?
 - 7 What is Protocol?
 - 8 What is the functionality of Switch device?
 - 9 What is an Access Link?
 - 10 Major difference between LAN and WAN.
 - 11 Define Throughput for computer networks
 - 12 Define the significance of traffic flooding in networks.
 - 13 Give an example of URL and explain its components.
 - 14 What is network topology?
- Q.2 (a) Explain the working of Packet switched networks. 03**
(b) What is DoS attack? Explain with categories. 04
(c) Differentiate IP stack and OSI reference model. 07
- OR**
- (c) How encapsulation is helpful in data transmission? Explain with example on layered architecture of computer networks. 07**
- Q.3 (a) What is client-server architecture? Discuss its merits and demerits. 03**
(b) Explain the movement of files between local and remote systems using FTP. 04
(c) What is HTTP? Explain with respect to persistent and non-persistent connections. 07
- OR**
- Q.3 (a) What is congestion? List the approaches congestion control. 03**
(b) Draw the reliable data transfer service model. 04
(c) Discuss the DNS services in detail. 07
- Q.4 (a) What is a routing algorithm? List major types of it. 03**
(b) Draw the IPV4 datagram format. 04
(c) What is connection oriented and connectionless service? Explain each with example. 07
- OR**
- Q.4 (a) Draw Router device architecture. 03**
(b) Explain the working of ICMP. List its message types. 04
(c) What is a virtual circuit network? How it differs from circuit switching network. 07
Discuss with example.
- Q.5 (a) Discuss the parity checks for error detection in data transfer. 03**
(b) Differentiate broadcast and multicast with their functionalities. 04
(c) List and explain the services provided by the link layer. 07
- OR**
- Q.5 (a) Explain CRC with example. 03**
(b) How TDM and FDM are useful in channel partitioning? 04
(c) Explain slotted ALOHA protocol. 07
