

[4]

Or

Total No. of Questions :10]

[Total No. of Printed Pages :4

Roll No

10. Write short notes:

14

- i) Domain Name system.
- ii) World Wide Web.
- iii) Content delivery.
- iv) Email.

EC - 803

B.E. VIII Semester

Examination, June 2015

Computer Network

Time : Three Hours

Maximum Marks : 70

- Note :* i) Attempt all questions.
ii) All questions carry equal marks.

1. a) During the communication how the various layer exchange information in OSI model? Describe with the help of suitable diagram. 7
- b) Explain the TCP/IP architecture. Show the comparison with the OSI model with the help of schematic diagram. 7

Or

2. a) Explain frequency domain and time domain characteristics of communication channel. Define the terms. 7
 - i) Bandwidth
 - ii) Throughput
 - iii) Latency
- b) What is circuit switched Network? How communication is established in these network? 7

[2]

3. a) Explain the working of stop and wait and selective repeat ARQ protocol. 7
- b) Compute the CRC for a 10 - bit sequence 1010011110 and a divisor of 1011. 7

Or

4. a) Prove that utilization of sliding window protocol for error free channel is $U = \frac{W}{1+2a}$ where 'W' is window size and 'a' is ratio of propagation time to transmission time. 7
- b) A pure ALOHA network transmit 200 - bit frames on a shared channel of 200 kbps. What is the throughput if the system (All station together) produces? 7
- i) 1000 frames per second.
- ii) 500 frames per second.
- iii) 250 frames per second.

In which case percentage wise maximum throughput would be achieved.

5. a) Distinguish between the following: 7
- i) Static and dynamic routing
- ii) Centralized and distributed routing.
- b) Explain the concept of Tunneling in internet working write down the differences in IPv4 and IPv6. 7

Or

[3]

6. a) Compare virtual circuit and datagram subnet. State the principles of congestion control and congestion prevention policies. 7
- b) Distinguish between multicasting and multiple unicasting. Also, give reason why we have a separate mechanism for multicasting, when it can be emulated with unicasting? 7

7. a) Define TCP and discuss the different fields of TCP packet format with the help of a diagram. 7
- b) Why does UDP exists? Would it not have been enough to just let user processes send raw IP packets? Justify your answer. 7

Or

8. a) How connection is established and Terminated in TCP using three way handshaking mechanism? Describe in detail. 7
- b) What are the different services that TCP provides to application program? 7
9. a) Why do you think DNS uses UDP, instead of TCP, for in query and response messages? 7
- b) Suppose you are sending an email from your Hotmail account to your friend, who reads his/her email from his/her mail server using IMAP. Briefly describe how your email travels from your host to your friend's host. Also, what are the application layer protocols involved into this? 7