Code: 15A05502 **R15**

B.Tech III Year I Semester (R15) Regular Examinations November/December 2017

COMPUTER NETWORKS

(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Define a computer Network. What are the differences between a computer network and a distributed system?
(b) What are the devices that can be used as end devices for a computer network?
(c) What is the need for medium access control layer?
(d) How parity method can be used for error detection.
(e) What are the addresses that are used in a computer network?
(f) What are the control messages that are supported by ICMP?
(g) Why transport layer is called as end to end layer.
(h) What are the fields that are present in the UDP header?
(i) What is the typical hardware configuration of a server machine?
(j) What is POP in an email system?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 (a) Why layered approach is used for the design of computer networks.
(b) What are the protocols of the TCP/IP protocol suite? Mention the purpose of each of them.
(c) What are the advantages and disadvantages of standards?

OR

3 (a) Compare circuit switching and packet switching.
(b) Compare copper and Fiber as transmission media.
(c) What are the problems with wireless transmission?

UNIT – II

4 (a) How the virtual LANs work.
(b) Write the algorithm for computing the check sum using the CRC method.
(c) What are the techniques for channelization?

OR

5 (a) What are the differences between error detection and error correction?
(b) Given the generator polynomial $x^3 + 1$ and bit polynomial $x^7 + x^5 + 1$, compute the checksum using the CRC method.

UNIT – III

6 (a) What is Distance vector in distance vector routing algorithm?
(b) How routes are determined by exchange of distance vectors. What is the main problem with distance vector routing algorithm? What are the solutions for it? Illustrate with an example.

OR

7 (a) What are the problems with internetworking?
(b) What is the format of packets exchanged in link state routing algorithm?
(c) What are the parameters for measuring quality of service?

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UNIT – IV

8 (a) What is the format of the header of TCP segment? Explain the fields.

(b) How flow control is achieved in TCP?

OR

9 (a) What are the open loop solutions for congestion control?

(b) What are the closed loop solutions for congestion control?

UNIT – V

10 (a) What are the functions of user agent, message transfer agent and message access agent in e-mail system?

(b) How TELNET works?

OR

11 (a) Explain any 10 tags of HTML.

(b) Why DNS is implemented as distributed system?

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