

Code : 051513

(2)

B.Tech 5th Semester Exam., 2015

COMPUTER NETWORKS

Time : 3 hours

Full Marks : 70

Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

1. Answer as directed of the following (any seven) : 2×7=14

(a) Network layer of OSI model does not establish any relationship among different packets of same message.

(Write True or False)

(b) What do you mean by connectionless service?

(c) What is baud rate?

(d) What is switch?

(e) What is flooding in routing?

(f) List two protocols in channelization category.

(g) What is byte-oriented protocol?

(h) What is repeater?

(i) What is TCP?

(j) What is the role of a bridge?

2. (a) Explain the responsibilities of first four layers of OSI model. 8

(b) Compare between TCP/IP and OSI models. 6

3. (a) Explain the transmission characteristics of twisted pair. 7

(b) Compare and contrast between byte-oriented and bit-oriented protocols. Also compare between byte-stuffing and bit-stuffing. 7

4. (a) Explain the reasons for moving from stop-and-wait ARQ protocol to Go-back-N ARQ protocol. 7

(b) Define framing and discuss the reasons for its need. What are fixed-size and variable-size framings? 7

5. Draw the flow diagram for the CSMA/CD and explain. Also compare CSMA/CD with ALOHA. 14

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(Turn Over)

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(Continued)

(3)

6. (a) What is bridge? Explain about spanning tree. 8
- (b) What are the common Gigabit Ethernet implementations? 6
7. (a) Explain the procedure for checksum and verification in the IPv4 protocol. What part of an IPv4 packet is covered in the checksum calculation and why? Are options, if present, included in the calculation? 8
- (b) Discuss the types of ICMP messages. 6
8. (a) Discuss four types of link defined by OSPF. What is the basis of classification for the four types of link defined by OSPF? 8
- (b) List RIP shortcomings and their corresponding fixes. 6
9. (a) TCP is sending data at 2 Mbytes/sec. If the sequence number starts with 7000, how long does it take before the sequence number goes back to zero? 7
- (b) Explain connection establishment in TCP using three-way handshaking. 7
