Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: IT307

Course Name: COMPUTER NETWORKS (IT)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks Marks

1 a) Classify Network types based on its size and explain each. (5)

b) Compare OSI model with TCP/IP reference model. (10)

2 a) Explain the use of networking devices used in physical layer and data link layer. (7)

b) Describe any three Data Link Layer Design issues in detail. How are they solved? (8)

3 a) Illustrate the Errors and Recovery with Go Back NSliding window protocol. (8)

b) The message 10111011010110 is to be transmitted using CRC error detection algorithm. Assuming the CRC polynomial to be x4+x2+x+1, determine the message that should be transmitted. If the second left most bit is corrupted, show that it is detected by the receiver. (7)

PART B

Answer any two full questions, each carries 15 marks

4 a) Compare Pure ALOHA with Slotted ALOHA. Analyse the efficiency of these protocols. (8)

b) Illustrate the three types of CSMA protocol. (7)

5 a) Write the security issues associated with the promiscuous mode of Ethernet. (3)

b) Write notes on 10-gigabit Ethernet. (4)

c) Describe any two Congestion Control Algorithm. (8)

6 a) Explain the Optimality principle in routing. (5)

b) Describe Distance vector routing algorithm and its short comings. How are they solved? (10)

PART C

Answer any two full questions, each carries 20 marks

7 a) Explain the use of Remote Procedure Call in Network applications. (5)

b) Explain the need of Multiplexing in transport Layer. (5)

c) Describe the Connection establishment and Release of a TCP connection with a state diagram. Why are the TIME-WAIT states required? (10)

8 a) Differentiate between Persistent and non-persistent Connections. (5)

b) Explain P2P sharing with its advantages and disadvantages. (5)

c) Differentiate between TCP and UDP protocol along with the segment structures. (10)

9 a) Explain the use of Multipurpose Internet Mail Extensions in internet. (5)

b) Explain the use of Cookies and Web Cache. (5)

c) Explain the Domain Name System in detail. (10)

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