Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: EC407

Course Name: COMPUTER COMMUNICATION

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1 a) Write in detail how all the layers in OSI model work together for networking. (10)

b) Differentiate circuit switching and packet switching. (5)

2 a) Explain the architecture of IEEE 802.11 with suitable diagram. (10)

b) Explain how framing is done by data link layer. (5)

3 a) Explain how error control is done in the data link layer. Give an example. (8)

b) Explain different flow control mechanisms adopted by data link layer. (7)

PART B

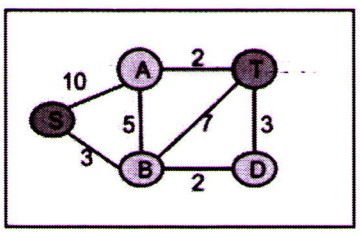
Answer any two full questions, each carries 15 marks.

4 a) Explain classfull and classless addressing (5)

b) Describe the functionalities of the network layer. Explain the IP packet format with a neat diagram. (10)

5 a) What is routing? Explain its different types. (5)

b) Apply Dijkstra's Algorithm to find the shortest path from the source node **S** to all other nodes in the figure given below: (10)



6 a) What are the problems associated with distance vector protocols. How is it overcome in other routing protocols? (5)

b) How can we distinguish a multicast address in IPv4 addressing? How can we do so in IPv6 addressing? With the help of an example, explain the CIDR scheme. (10)

PART C

Answer any two full questions, each carries 20 marks.

7 a) Draw the TCP segment header format. Explain the various fields in the TCP (7)

segment header.

b) What are the main features of UDP? Explain. (6)

c) Explain the various congestion control mechanisms to alleviate congestion after it happens. (7)

8 a) Explain the services offered by TCP to the processes at the application layer. (5)

b) With the help of a diagram, explain how users download the email message using POP3. (8)

c) What is the need of the second layer of defence in a secured network environment? Explain. (7)

9 a) Explain the functionality of a) MIME b) SMTP c) HTTP. (6)

b) Explain the handshake protocol used in SSL. (7)

c) What is IPSec? Explain the two modes of operation of IPSec. (2+5)

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