

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.

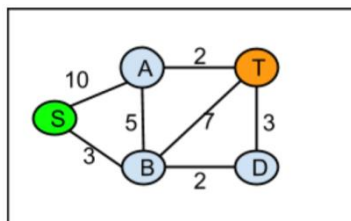
Marks

- | | | | |
|---|----|---|------|
| 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.

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|---|----|--|------|
| 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) |



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|---|----|---|------|
| 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.

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|---|----|---|-----|
| 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)
