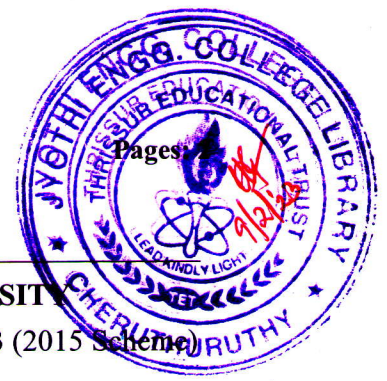


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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree (S, FE) Examination January 2023 (2015 Scheme)

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) Differentiate virtual circuit and datagram approach in packet switching. | (5) |
| b) What is OSI model? Explain the functions of different layers in it. | (10) |
| 2 a) Explain the basic network topologies. | (7) |
| b) Explain Go-back N and selective repeat request protocol. | (8) |
| 3 a) Describe TCP/IP protocol suite. | (7) |
| b) Explain how collision is avoided in CSMA/CA method. | (8) |

PART B

Answer any two full questions, each carries 15 marks.

- | | |
|--------------------------------------------------------------------------------------------------------------|-----|
| 4 a) Explain IPv4 header with a neat sketch. | (7) |
| b) Explain Dijkstra's algorithm to find the shortest path between nodes using suitable example. | (8) |
| 5 a) Illustrate the IPv4 logical addressing and its address classes. | (8) |
| b) What is subnet mask? How Class B subnetting is done? | (7) |
| 6 a) Find the class, Net id and host id of the following IP addresses | (4) |
| i) 112.23.4.2 | |
| ii) 170.6.18.1 | |
| iii) 198.67.91.8 | |
| iv) 222.11.88.99 | |
| b) Describe how a newly arriving host in an organization will be assigned an IP address using DHCP protocol. | (4) |
| c) Explain any one of the routing protocols. | (7) |

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) What are the different congestion control mechanisms adopted by transport layer? (10)
Describe different closed loop congestion control methods.
- b) Explain the transport-layer multiplexing and demultiplexing. (5)
- c) Explain UDP datagram format. (5)
- 8 a) Explain open loop and closed loop congestion control mechanisms. (10)
- b) Illustrate the purpose of firewall in networking. Write notes on proxy and packet filtered firewall (5)
- c) Explain the two modes of operation of IPSec. (5)
- 9 a) What is quality of service (QoS) and flow characteristics? Explain different scheduling techniques to improve QoS. (10)
- b) Explain any one protocol used for providing security at the transport layer. (5)
- c) Differentiate packet-filter firewall and proxy-based firewall. (5)
