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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? Describe different closed loop congestion control methods.	(10)
	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)

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