

15EC64

Visvesvaraya Technological University, Belagavi
MODEL QUESTION PAPER – Set I
6th Semester, B.E (CBCS) EC/TC
Course: 15EC64– Computer Communication Networks

Time: 3 Hours

Max Marks: 80

Note: (i) Answer Five full questions selecting any one full question from each Module.
(ii) Question on a topic of a Module may appear in either its 1st or 2nd question.

Module 1			
1	(a)	Explain the significance of all layers in TCP/IP protocol suite	8
	(b)	Distinguish Character stuffing and Bit stuffing, with an example	4
	(c)	Explain four Physical Topologies.	4
OR			
2	(a)	Discuss the FSM for stop and wait protocol in detail using suitable example	8
	(b)	Write the format of an ARP packet, and show how ARP sends request and response message with suitable example	8
Module 2			
3	(a)	Discuss the behavior of the three persistence methods of CSMA with flow diagram	8
	(b)	Explain token passing as a controlled access technique	4
	(c)	A slotted ALOHA network transmits 200 bit frame on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces	4

		(i)1000 frames per second (ii) 500 frames per second (iii)250 frames per second	
OR			
4	(a)	Explain the IEEE frame format of standard Ethernet	6
	(b)	Explain the standard Ethernet physical layer implementation of (i)10base 2 (ii)10base5	4
	(c)	With a neat diagram, explain Gigabit Ethernet encoding scheme.	6
Module 3			
5	(a)	Discuss the characteristics of wireless LAN protocol.	4
	(b)	Describe the characteristics of VLAN used to group stations and explain them briefly	6
	(c)	Explain spanning tree algorithm with graphical representation	6
OR			
6	(a)	Explain the two different approaches of Packet-switched network to route the packet.	8
	(b)	An organization is granted a block of addresses with the beginning address 14.24.74.0/24. The organization needs to have 3 subblocks of addresses to use in its three subnets: one subblock of 10 addresses, one subblock of 60 addresses, and one subblock of 120 addresses. Design the subblocks.	8
Module 4			
7	(a)	Explain IPv4 datagram format.	8
	(b)	Explain three phases of Remote host and Mobile host communication	8
OR			

8	(a)	Explain the operation of External and Internal Border Gateway Protocol	8
	(b)	Explain Least cost tree using shared link state database with suitable example	8
Module 5			
9	(a)	Explain connectionless and connection-oriented service represented as FSMs for transport layer	8
	(b)	Write outline and explain send window and receive window for selective repeat protocol	8
OR			
10	(a)	What are the different TCP services and features? Explain them	8
	(b)	Explain TCP connection establishment and connection termination using three way handshaking	8

Note: In the updated syllabus, in Module-3, Routers has been added along with the Switches.
