



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Computer Science and Engineering

Make-up Examination; March/April - 2022

Computer Networks

Time: 3 hrs

Max. Marks: 100

Course Outcome

The Students will be able to:

CO1: Discuss the services provided by network layer such as Packetizing, Forwarding and Routing, IPV4 addressing for host-to-host communication.

CO2: Analyse and apply the routing algorithms such as distance vector, link state, hierarchical & multicast routing for transmitting reliable data through wired/wireless media.

CO3: Design and Construct a Network and its Performance can be measured based on various factors such as delay, throughput, and packet loss.

CO4: Discuss the service provided by transport layer such as process to process communication, addressing, multiplexing, de-multiplexing, error control, flow control and congestion control.

CO5: Design and Implement client - server paradigm or peer-to-peer paradigm using HTTP, DNS, TELNET, FTP protocols by knowing the importance of application layer in internet.

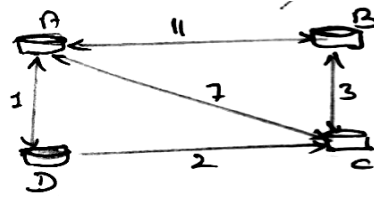
Note: i) Part – A is compulsory. One question from each unit for maximum of TWO marks

ii) Part – B : Answer any **two** sub questions (from a, b, c) from each unit for a Maximum of 18 marks.

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
I a.	Explain open loop and closed loop congestion control.	2	L1	CO1	PO1
b.	Brief out least-cost routing.	2	L2	CO2	PO1
c.	Explain client-server paradigm.	2	L3	CO3	PO2
d.	Demonstrate any two services of UDP.	2	L2	CO4	PO2
e.	How does TELNET works? Explain.	2	L2	CO5	PO2
II : PART - B		90			
UNIT - I		18			
1 a.	Briefly discuss the other services of network layer.	9	L2	CO1	PO1
b.	Explain classfull addressing scheme in detail and also explain deplation problem.	9	L3	CO1	PO1
c.	Suppose a network with IP address 192.168.0.0 is divided in to 2-subnets, then find the number of hosts per subnet and also find out;	9	L4	CO1	PO1
	i) First and last host ID				
	ii) Broadcast address				
UNIT - II		18			
2 a.	Explain distance vector routing algorithm. And also find the shortest path from node A to D from the given below graph.	9	L3	CO2	PO1

Contd... 2

- b. How does path vector routing algorithm works and also explain how routing table for node 'B' will update show both old and new routing table for below graph?



9 L4 CO2 PO1

- c. Explain working of DVMRP and also explain three steps of multicasting.

9 L2 CO2 PO1

UNIT - III

18

- 3 a. Brief out the transition from IPv4 to IPv6 and also explain each step briefly with its neat diagram.

9 L3 CO3 PO1

- b. What is extension header? With neat diagram, explain six types of extension headers. And also justify the essence of Pad1, Pad N, jumbo packet

9 L4 CO3 PO1

- c. Demonstrate the working of Go-Back-N protocol with neat diagram.

9 L3 CO3 PO2

UNIT - IV

18

- 4 a. How does three-way-handshaking protocol works in TCP connection? Brief out along with neat diagram.

9 L3 CO4 PO1

- b. Justify how SCTP works along with its all services?

9 L1 CO4 PO1

- c. Demonstrate the working of Iterative UDP with its neat diagram.

9 L2 CO4 PO1

UNIT - V

18

- 5 a. Explain the architecture of Email with its neat diagram.

9 L2 CO5 PO1

- b. What is MIME? Brief out its all types and subtype with neat diagram.

9 L4 CO5 PO2

- c. How does SSH works? And also explain its components briefly.

9 L3 CO5 PO2

* * *