



BRAINWARE UNIVERSITY

Term End Examination 2023-2024 Programme - Dip.CSE-2020/Dip.CSE-2021 Course Name - Computer Network **Course Code - DCSE603** (Semester VI)

Time: 2:30 Hours Full Marks: 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

x 15=15

	(Multiple Choice T	ype Question)	1
1.	Choose the correct alternative from the following	j:	
(i)	A refer to a device that forwards packets between networks by processing the routing information included in the packet.		•
(ii)	a) Bridge c) Hub Select a dynamic mapping method that finds a p	b) Router d) Switch physical address, given a logical address	ŝ
(iii)	a) ARP c) Bootp Error detection at the data link level is employed	b) RARP d) None of these d by	
(iv)	a) Bit Stuffingc) Hamming CodeSelect the methods to move data through a net	b) Cyclic Redundancy code d) Equalization work of links and switches?	
(v)	a) Packet switching c) Both (a) and (b) Select What class of IP address provides a maximateristic and the same of	b) Circuit switching d) Line Switching num of only 254 host addresses per	
(vi)	a) Class Ac) Class BSelect Which of the following IP addresses can I	b) Class C d) Class D be used as (a) loop-back addresses?	
(vii)	a) 0.0.0.0 c) 255.255.255.255 On a simplex data link, choose a possible error	b) 127.0.0.1 d) . 0.255.255.255 recovery technique?	
	a) Backward error correction c) Automatic Repeat Request	b) The use of hamming codes d) Downward error correction	

b) The ping command checks the port level

connectivity between source destinations

(viii) Which of the following is true with regard to the ping command?

a) Ping stands for Packet Internet Generator

end points d) The ping command activates the RARP c) Ping summarizes the packet loss and roundprotocol of the IP layer trip delay between two IP end points (ix) As the resources are reserved between two communicating end systems in circuit switching, select the performance achieved. b) Guaranteed constant rate a) Authentication d) Store and forward c) Reliability (x) Data in the Network layer is transferred in the form of b) packets a) layers d) bits c) bytes (xi) Which of the following protocols uses both TCP and UDP?-justfy b) SMTP a) FTP d) DNS c) TELNET (xii) Select the protocol that allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host? b) Telnet a) HTTP d) None c) FTP (xiii) Select the software that prevents external access to a system. b) Gateway a) Firewall d) Virus checker c) Router (xiv) The term HTTP indicates b) Hypertext tracing protocol a) Hyper terminal tracing program d) Hypertext transfer program c) Hypertext transfer protocol (xv) Select Which one of the following is an internet standard protocol for managing devices on IP network b) Simple network management protocol a) Dynamic host configuration protocol d) Media gateway protocol c) Internet message access protocol Group-B 3 x 5=15 (Short Answer Type Questions) (3) 2. Explain the types of errors with examples? 3. Explain in brief the functions of each layer of the OSI reference model. (3)(3)4. Explain the purpose of IP addresses in the context of network communication. (3)5. Discuss about Firewall? 6. Assess the advantages and disadvantages of simplex data flow. (3)Evaluate the effectiveness of various physical network topologies in different scenarios. (3)Group-C (Long Answer Type Questions) 5 x 6=30 7. Illustrate the responsibilities of data link layer? (5)8. Explain the circumstances of Stop-and Wait ARQ. (5)9. Critically analyze the effectiveness of different physical structures in network topologies, (5)considering factors such as scalability and fault tolerance. 10. Discuss the network layer design issues? Explain in detail. (5)11. Discuss the role of Unicast Routing Protocols such as RIP, OSPF, and BGP in computer (5)networks. Compare and contrast their key features and applications. 12. Explain the approaches of packet switching techniques (5)

OR

