Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

MCA - SEMESTER-V • EXAMINATION - SUMMER 2016

Subject Code: 2650010 Date: 13-		05-2016		
_	Subject Name: Advanced Networking (AN) (Elective-III) Time: 10.30am to 01.00 pm Total Mar			
Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.				
Q.1	(a)	Explain IPv4 Subnet Addressing with suitable example.	7	
	<b>(b)</b>	Write a short note on following:		
		(i) Embedding IPv4 Addresses In IPv6 For Transition.	3	
		(ii) ARP Message Format	4	
Q.2	(a)	Discuss IP Forwarding Algorithm.	7	
	<b>(b)</b>	What is the purpose of ping command? Explain the ICMP message types used with IPv4 and IPv6.	7	
		OR		
	<b>(b)</b>	What is User Datagram Protocol (UDP)? Explain UDP Encapsulation and Protocol Layering.	7	
Q.3	(a)	Write a short note on following		
		(i) TCP segment format.	3	
		(ii) Random Early Detection (RED)	4	
	<b>(b)</b>	(i) Explain the (i) Maximum Segment Size Option and (ii) Window Scaling Option of TCP Options.	4	
		(ii) Explain TCP connection Establishment.	3	
		OR		
	(a)	What is Virtual Private Networks (VPNs)? Explain VPN Addressing and Forwarding.	7	
	<b>(b)</b>	Explain NAT Translation Table Creation in details.	7	
Q.4	(a)	Explain following		
		(i) DHCP Message Format.	4	
		(ii) Draw and explain IPv6 Base Header Format.	3	

	<b>(b)</b>	Discuss IPv6 Neighbor Discovery Protocol (NDP)	7
		OR	
	(a)	What is E-mail? Explain Simple Mail Transfer Protocol (SMTP).	5
	<b>(b)</b>	(i) Discuss Real-Time Transport Protocol (RTP).	5
		(ii) Explain IPv6 Fragmentation And Path MTU Discovery (PMTUD).	4
Q.5	(a)	What is Software Defined Networking (SDN)? Discuss SDN Architecture And External Controllers.	7
	<b>(b)</b>	What is IP Security (IPsec)? Explain IPsec Authectication Header in details.	7
		OR	
	(a) Explain following		7
		(i) Wireless Networking And IEEE 802.15.4	
		(ii) Reverse Address Resolution (RARP).	
	<b>(b)</b>	Discuss ZigBee IPv6 Protocol Stack.	7

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