Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – WINTER • 2015

Subject Code: 2650010 **Date: 10-12-2015**

Subject Name: Advance Networking (AN)

Time: 10:30 am - 01:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks**

Q.1	**(a)**		What is Address Resolution Protocol (ARP) ?. Explain ARP Message Format.	**07**
	(b)		Answer the followings.	
		(1)	Explain IPv4 Subnet Addressing.	**04**
		(2)	Discuss IPv6 Neighbor Discovery.	**03**
Q.2	**(a)**		Explain how ICMP is an error reporting mechanism? Also discuss ICMP Message Format.	**07**
	(b)		What is the purpose of Internet Protocol (IP)?. Draw and explain IPv6 Base header format.	**07**
			OR	
	(b)		Explain IPv6 Fragmentation and Path MTU Discovery (PMTUD).	**07**
Q.3	**(a)**		Why is the UDP checksum separate from the IP checksum ? Explain UDP Encapsulation and Protocol Layering.	**07**
	(b)		What is Virtual Private Networks (VPN) ? . Explain VPN Addressing and Forwarding Mechanism.	**07**
			OR	
Q.3	**(a)**		Answer the followings.	
		(1)	Explain DHCP Message Format.	**04**
		(2)	Write a short note on Simple Network Management Protocol(SNMP).	**03**
	(b)		Discuss Real-Time Transport Protocol (RTP).	**07**
Q.4	**(a)**		Discuss (i) Post Office Protocol (POP) and (ii) Internet Message Access protocol (IMAP) of Mail Retrieval And Mailbox Manipulation Protocols.	**07**
	(b)		Answer the followings.	
		(1)	Explain NAT Translation Table Creation.	**03**
		(2)	Discuss RTCP Operation.	**04**
			OR	
Q.4	**(a)**		Explain IPsec Encapsulating Security Payload.	**07**
	(b)		Draw and explain SDN Architecture with an external controller.	**07**
Q.5	**(a)**		Discuss the ZigBee IPv6 Protocol Stack.	**07**
	(b)		What is Firewalls ? Explain Firewall Rules and the 5-Tuple.	**07**
			OR	
Q.5	**(a)**		Explain Forwarding in a ZigBee Route-Over Mesh.	**07**
	(b)		What is OpenFlow Technology? . Explain basic actions a Type 0 OpenFlow Switch can associate with a classification pattern.	**07**

****