Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

II SEMESTER M.C.A.

END SEMESTER EXAMINATIONS, APRIL 2018

SUBJECT: ADVANCED COMPUTER NETWORKS [MCA 4202]

REVISED CREDIT SYSTEM
(19/04/2018)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer ALL the questions.
- Missing data may be suitably assumed.

1A.	Explain the different extension headers in IPV6 datagram.	5
1B.	A host with IP address 130.23.43.20 and physical address B2:34:55:10:22:10 has a packet to send to another host with IP address 130.23.43.25 and physical address A4:6E:F4:59:83:AB. The two hosts are on the same Ethernet network. Show the ARP request and reply packets encapsulated in Ethernet frames.	3
1C.	What are the disadvantages of BOOTP protocol?	2
2A.	Explain the functionalities of the different layers in the TCP/IP protocol suite with a neat diagram.	5
2B.	What is the significance of transmission sequence number, stream identifier and stream sequence number in SCTP protocol?	3
2C.	What are the uses of timers in RIP protocol?	2

3A.	Explain the different error reporting messages in ICMP.	5
3B.	An IPv4 packet has arrived with the following information in the header (in hexadecimal). 45 00 00 54 00 03 00 00 20 06 00 00 7C 4E 03 02 B4 0E 0F 02 a) Are there any options? b) Is the packet fragmented? c) What is the size of the data? d) Is a checksum used? e) How many more routers can the packet travel to? f) What is the identification number of the packet?	3
3C.	What are the two types of line configuration?	2
4A.	Describe the database description packet in OSPF protocol.	5
4B.	Describe the three strategies devised for the transitions from IPV4 to IPV6.	3
4C.	What is the difference between limited broadcast address and direct broadcast address?	2
5A.	Explain the TCP segment with a neat diagram.	5
5B.	An organization is granted the block 211.17.180.0/24. The administrator wants to create 32 subnets. a) Find the subnet mask. b) Find the number of addresses in each subnet. c) Find the first and the last address in the first subnet. d) Find the first and the last address in the last subnet. (subnet 32).	3
5C.	Differentiate the open loop congestion control policy from closed loop congestion control policy.	2