Reg. No.									

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

II SEMESTER M.C.A.

MAKE UP EXAMINATIONS, JUNE 2018

SUBJECT: ADVANCED COMPUTER NETWORKS [MCA 4202]

REVISED CREDIT SYSTEM
(14 /06/2018)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

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

1A.	Explain the IPV4 datagram format with a neat diagram.	**5**
1B.	What are the different types of link supported in OSPF protocol?	**3**
1C.	A 1000 byte message is sent through a private internet using the TCP/IP protocol suite. If the protocol adds a 100-byte header at each layer, what is the efficiency of the system?	**2**
2A.	Explain the basic network topologies citing the advantage and disadvantage of each type.	**5**
2B.	The following is a dump of a UDP header in hexadecimal format: $(004511000058FE20)_{16}$ a) What is the source port number? b) What is the destination port number? c) What is the total length of the user datagram? d) What is the length of the data? e) Is the packet directed from a client to a server or vice versa?	**3**
2C.	Why does OSPF use HELLO message packet?	**2**

3A.	Explain the ARP packet with a neat diagram.	**5**
3B.	What are the different levels of addresses used in an internet employing the TCP/IP protocols?	**3**
3C.	What is the need of verification tag field in SCTP?	**2**
4A.	Explain how the RIP protocol is used in implementing distance vector routing?	**5**
4B.	Calculate the checksum for the following ICMP packet: Type: Echo Request Identifier: 123 Sequence number: 25 Message: Hello	**3**
4C.	What do you mean by Piggybacking?	**2**
5A.	Explain the DATA chunk packet in SCTP protocol	**5**
5B.	Explain the use of timestamp request and timestamp reply messages in ICMP.	**3**
5C.	An address in a block is given as 200.11.8.45. Find the number of addresses in the block, the first address, and the last address.	**2**