MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Unit of MAHE, Manipal

SIXTH SEMESTER B.TECH.

MAKE UP EXAMINATIONS, JUNE 2019

SUBJECT: OPEN ELECTIVE-II: NETWORKING WITH TCP/IP [ICT 3284]

(REVISED CREDIT SYSTEM)
(20/06/2019)

TIME: 3 HOURS   MAX. MARKS: 50

Instructions to candidates:
- Answer **ALL** questions.
- Missing data, if any, may be suitably assumed.

1A.	With a neat diagram, discuss TCP/IP protocol suite and functionalities of protocols in each layer.	5
1B.	Explain ICMP Echo- request and echo-reply messages.	3
1C.	Distinguish between persistent and non persistent connection.	2
2A.	Draw the TCP segment format and discuss various fields.	5
2B.	An address in a block is given as 73.22.17.25. Find the number of addresses in the block, the first address, and the last address.	3
2C.	Discuss various types of IGMP query messages.	2
3A.	Why destination unreachable and strict source routing messages are used? Explain the message formats of the same.	5
3B.	An Ethernetnet MAC sublayer receives 1510 bytes of data from LLC layer. Can the data be encapsulated in one frame? If not, how many frames need to be sent? What is the size of the data in each frame?	3
3C.	An IP fragment has arrived with an offset value of 100. How many bytes of data were originally sent by the source before the data in this fragment?	2
4A.	What is a resolver? Discuss iterative resolution and recursive resolution w.r.t. DNS.	5
4B.	Discuss various MIME data types and subtypes.	3
4C.	List the general features of SCTP.	2
5A.	Explain various modes of operation in TELNET.	5

5B. The following is a dump of UDP header in hexadecimal format.
CB84000D001C001C

    i. What is the source port number?

    ii. What is the destination port number?

    iii. What is the total length of the user datagram?

    iv. What is the total length of data?

    v. What is the source and destination?

    vi. What is the client process?   **3**

5C. What are the key elements of a protocol?   **2**