Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

V SEMESTER B.TECH. (COMPUTER AND COMMUNICATION ENGINEERING)

MAKEUP EXAMINATIONS, DEC 2019

SUBJECT: HIGH SPEED COMMUNICATION NETWORKS AND PROGRAMMING [ICT 3152]

REVISED CREDIT SYSTEM

(21/12 /2019)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

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

1A. Write simple client-server program to check whether the received string is palindrome or not at the server side using connection oriented communication. The server uses wildcard IP address and port number and client uses 192.168.2.10 and 2345 as IP address and port number respectively. **5**

1B. What is the significance of label in MPLS? With neat diagram explain the structure of label used in MPLS. **3**

1C. Give the syntax of socket function to join a multicast group with the information it contains. **2**

2A. Complete the levels and describe the sequence of DTLs for the following conditions to set up a connection from B.2.3 to A.1.2 in **Figure Q.2A.** (Thick line denotes shortest path from source node to destination node)

i) Consider a scenario in which, during call setup the requested resources at switch A.2.3 is not available and the call has been blocked at this stage.

ii) Suggest a method, how PNNI resolves the problem and completes the sequence of DTLs to reach destination switch.

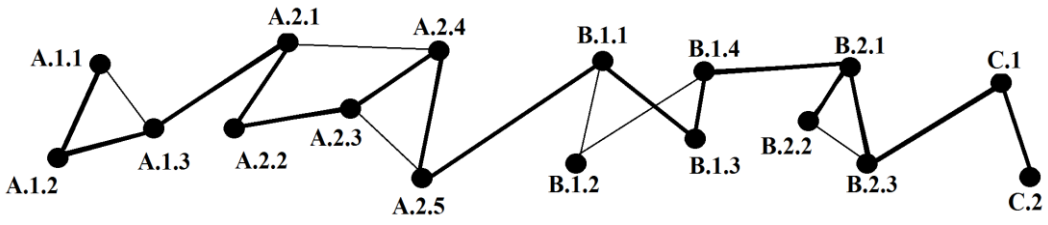

Figure Q. 2A **5**

2B. Explain different ways of creating daemon process. Give the syntax and semantics for creating and closing the daemon log. **3**

2C. What are the four major difference between hard state and soft sate in communication network? **2**

3A.	Compare the overhead of AAL3/4 with that of AAL5 for a 64,000 byte packet. Show the overhead in each layer.	**5**
3B.	Explain with flow diagram, how IPv6 client on dual stack host communicate with IPv4 server.(Show address type and socket type clearly)	**3**
3C.	What is Label Forwarding Information Base (LFIB)? How does it help MPLS network?	**2**
4A.	List and explain the usage of different TCP Socket options.	**5**
4B.	Explain why IETF (Internet Engineering Task Force) has introduced new service model called the differentiated service for providing QoS in the Internet. Explain with neat diagram.	**3**
4C.	What is raw socket? Give the syntax for the following: i) Create a socket ii) Send and receive data	**2**
5A.	List the components of Optical Network and briefly explain each of them.	**5**
5B.	How do DNS components communicate with each other to resolve domain name?	**3**
5C.	Convert 224.200.10.1 multicast IPv4 to multicast IPv6 and multicast MAC address.	**2**