Reg No:

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
A Constituent Institution of Manipal University

V SEMESTER B.TECH. (COMPUTER AND COMMUNICATION ENGINEERING) MAKEUP EXAMINATIONS, DEC 2016

SUBJECT: HIGH SPEED COMMUNICATION NETWORKS AND PROGRAMMING [ICT 353]

REVISED CREDIT SYSTEM
(29/12/2016)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:

❖ Answer any **FIVE FULL** questions.
❖ Missing data may be suitably assumed.

1A.	Write psuedocode for client server model to demonstrate simple client server communication using UDP.	**5**
1B.	Explain BISDN reference model with neat diagram.	**3**
1C.	What are the differences between step index and graded index multimode optical?	**2**
2A.	Explain how signaling messages involved in ATM connection setup?	**5**
2B.	Assume that a client performs two writes: the first of 4 bytes and the second of 396 bytes. Also assume that the server's delayed ACK time is 100 ms, the RTT between the client and server is 100 ms, and the server's processing time for the client's request is 50 ms. Draw a timeline that shows the interaction of the Nagle algorithm with delayed ACKs for both cases of TCP_NODELAY values.	**3**
2C.	Assume that Pt = 1mW, Pr = -45dBm at the rate of 1Gbps and BER = 10 ^ (-12) with A = 0.2dB/Km. Calculate the maximum usable length of optical cable.	**2**
3A.	Explain the AAL process which supports Bandwidth efficient transfer of bursty data using connection oriented or connectionless service. Find the out the overhead for 64 K bytes packet.	**5**
3B.	How do you create your own IP header using sockets? Explain with pseudo-code.	**3**
3C.	What are the actions performed by syslogd upon boot?	**2**
4A.	List and explain all components of MPLS used for packet streaming.	**5**
4B.	What are the services provided by Per Hop Behavior, while forwarding the packets?	**3**

4C. Give the syntax of socket function to join a multicast group with the structure used. **2**

5A. How do DNS components communicate each other to resolve domain name? **5**

5B. List roles of WDM in optical communication. **3**

5C. What is Forward Equivalent Class (FEC) Classification? **2**

6A. List and explain the components of optical network with neat diagram. **5**

6B. Explain the following:
  i.   Byte ordering functions
  ii. Fork and exec functions **3**

6C. Differentiate between guaranteed service and controlled load service in integrated service network. **2**