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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -2 EXAMINATION- October-2019  
M.Tech./VII Semester

COURSE CODE: 10M11CI112

MAX. MARKS:25

COURSE NAME: Advance Computer Network

COURSE CREDITS: 03

MAX. TIME: 1:30 Hours

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. Compare circuit switching and packet switching in terms of congestion, delay, fault tolerance and resource utilization? [3]
2. Discuss the purpose of VCI in virtual circuit switching? Also explain connection setup and data transfer phase in virtual circuit switching? [1+2]
3. Discuss the various components of input and output ports? Why components of input ports are in reverse order in output port? [2+1]
4. Design a 8-port Banyan multi stage switch with suitable diagram? Also highlight the path (in fig.) for packet arriving at input port 7 to output port 2. [3]
5. Assume 4 bit addresses are used in a network. The forwarding table of a router is given below. Reduce the table using trie tree data structure? If the router receive a packet with destination address as 0111 then the packet is forwarded to which port? [4]

Address	Port
0000	4
0101	3
1010	4
1001	3
1101	2
1011	4
1000	1
1100	2
0011	4
0110	3

6. Explain Head of Line blocking problem with suitable example? Suggest some solution of this problem? [2+1]
7. Compare Inter domain and Intra domain routing? [2]
8. Consider a situation where a source S and destination are apart from each other (fig.). Source S is in network 1 and destination D is in network 4. Suppose router R1 connect network 1 and network 2, similarly router R2 connect network 2 and network 3 and router R3 connect network 3 and network 4. If MTU of network 1 and network 4 is same (260 bytes) and MTU of network 2 and network 3 is 100 bytes and 68 bytes respectively. When source S sends a IP datagram of size 260 bytes (20 byte header and 240 byte of data) with identification number 19. Then calculate the number of packets (fragments) reached at destination D with transparent and non transparent fragmentation scheme. Also write down the value of identification number, fragment offset, total length and more fragments fields of IP header of every fragment. [4]

Network 1

Network 4

