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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

May 2016 Semester End Main Examinations

Course: COMPUTER NETWORKS **Duration: 3 Hours**
Course Code: 10CI6GCCON **Max Marks: 100**
Date: 11.05.2016

Instructions: Answer FIVE FULL questions, choosing one from each unit.

UNIT-1

1. a) Analyze the minimum delay incurred in datagram packet switching when three packets of a message are transmitted from a source to a destination over a path that involves two intermediate switches. **06**
   b) Consider the following traffic pattern in a banyan switch with eight inputs and eight outputs. Pattern: Packets from Inputs 0,1,2,3 and 4 are to be routed to outputs 1,2,4,3 and 6 respectively. Analyze and discuss on whether the switch is in blocking or non-blocking state. **06**
   c) Describe how Dijkstra's algorithm is used to find the shortest path from a source node to all the other nodes. Explain with an example topology. **08**

UNIT-2

2. a) Describe Weighted Fair queuing at Packet level. Analyze the transmission sequences for fluid flow and packet by packet fair queuing by considering two logical buffers. Assume each has a single L bit packet to transmit at t=0 and no subsequent packet arrives. Assume C= L bits/second= 1 packet/second. Consider the buffer 1 has weight 1 and buffer 2 has weight 3. **08**
   b) Consider the three way handshake in TCP connection setup. **06**
   a) Suppose that an old SYN segment from station A arrives at station B, requesting a TCP Connection. Explain how the three way handshake procedure ensures that the connection is rejected.
   b) Now suppose that an old SYN segment from station A arrives at station B, followed a bit later by an old ACK segment from A to a SYN segment from B. Is this connection request also rejected? Justify your answer.
   c) Explain Any TWO Types of OSPF packets **06**

OR

3. a) Explain IPV6 header format illustrating changes from IPV4 to IPV6 **08**
   b) A host in an organization has an IP address 150.32.64.34 and a subnet mask 255.255.240.0. What is the address of this subnet? What is the range of IP addresses that a host can have on this subnet? **06**
   c) Explain any TWO types of BGP messages **06**

UNIT-3

4.	a)	Consider a highly simplified Diffie-hellman exchange in which p=29 and g=5 . suppose that user A chooses the random number x= 3 and user B chooses random number y= 7 .find the shared secret key K.	**05**
	b)	Explain the different ways how SNMP provides access to management information	**05**
	c)	Explain MPLS Operation and its routing in detail.	**10**

OR

5.	a)	Explain the process of TLS Handshake in detail.	**10**
	b)	Explain the different types of VPNs.	**06**
	c)	Write short notes on RMON.	**04**

UNIT-4

6.	a)	Describe the need for data compression. Illustrate the JPEG compression technique in detail.	**10**
	b)	Describe Session Initiation Protocol in detail**.** With neat figure illustrate its signaling	**10**

UNIT-5

7.	a)	Describe the DEEP clustering protocol for wireless sensor networks.	**10**
	b)	List and briefly explain the criteria for secure routing protocol.	**10**

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