U.S.N. | | | | | | | | | | |

BMS College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

December 2017 Semester End Main Examinations

Course: Computer Networks **Duration: 3 hrs.**
Course Code: 16CS5DCCON **Max Marks: 100**
Date:23.12.2017

Instructions: **Answer any FIVE full questions, choosing one from each Unit.**

UNIT 1

1.	a)	Explain the different types of Network Application Architectures.	08
	b)	Compare Non persistent and persistent connection with respect to HTTP.	06
	c)	Explain the high level view of the Internet email system.	06

UNIT 2

2.	a)	Explain how a distributed database can be implemented in the Internet.	08
	b)	Demonstrate Socket programming with TCP and UDP.	06
	c)	Differentiate between transport layer multiplexing and demultiplexing.	06

UNIT 3

3.	a)	Compare and Contrast UDP and TCP segment structure.	07
	b)	Show the FSM representation of RDT 3.0 over a Lossy channel with Bit Errors.	07
	c)	Suppose that TCP's current estimated values for the round trip time (estimatedRTT) and deviation in the RTT (DevRTT) are 200 msec and 20 msec, respectively. Suppose that the next three measured values of the RTT are 300, 400, and 320respectively.Compute TCP's new value of estimatedRTT, DevRTT, and the TCP timeout value after each of these three measured RTT values is obtained. Use the values of $\alpha = 0.125$ and $\beta = 0.25$.	06

UNIT 4

4.	a)	What are the Causes and the Costs of Congestion? Explain with examples.	10
	b)	What are the different approaches to Congestion Control ? Explain any one in detail.	10

OR

5.	a)	Analyze the high-level view of Generic Router Architecture in detail.	10
	b)	Explain in detail the different types of services offered by Network Layer.	10

UNIT 5

6. a) Distinguish between the IPV4 and IPV6 datagram formats used for addressing. 07

b) Explain ICMP in detail. 07

c) Determine the least cost path for the graph in Figure1 using Dijikstras algorithm. Consider A as Source Node.

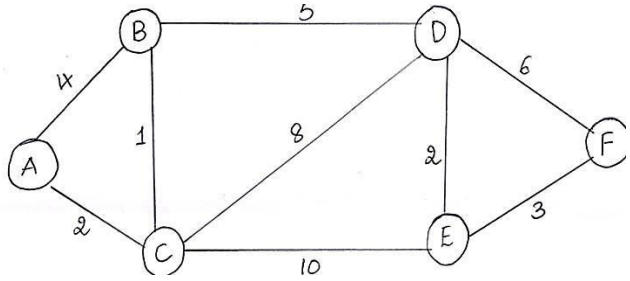

Figure - 1

OR

7. a) Differentiate Link state and Distance Vector Algorithms for routing of packet in network layer. 07

b) Explain the features of OSPF protocol. 07

c) Determine least cost path for the graph in Figure 2 using Distance Vector algorithm. 06

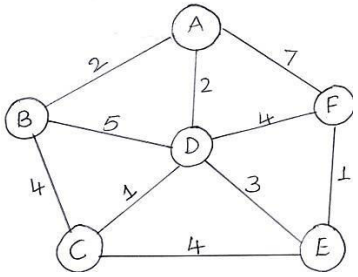

Figure - 2

****