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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Third Semester, Master of Computer Applications (MCA)

Semester End Examination; Dec - 2016/Jan - 2017

Computer Networks

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1	a.	What is internet? Explain Nuts and Bolts of Internet.	10
	b.	Explain the functions of layered architecture of TCP/IP protocol.	10
2	a.	Define delay. Explain types of delay.	10
	b.	Explain various guided transmission model.	10

UNIT - II

3	a.	How are DNS servers classified? Explain.	8
	b.	Discuss the need for web caching.	6
	c.	Compare HTTP non-persistent connections with HTTP persistent connection with and without pipelining.	6
4	a.	List and explain the services provided by DNS. Discuss the need for DNS caching.	10
	b.	Define FTP. Explain working of FTP.	10

UNIT - III

5	a.	List and explain the prominent functions of Transport layer.	10
	b.	With an example, show the working of SR protocol. How GBN differs from SR protocol?	10
6	a.	Write TCP segment structure and brief on functions of various fields.	8
	b.	How do you estimate RTT and timeout? Discuss how to set and manage retransmission timeout interval.	6
	c.	Write the three steps of TCP connection management.	6

UNIT - IV

7	a.	Explain the architecture of a router with a neat sketch.	10
	b.	With neat diagram, explain IPv4 datagram format.	10
8	a.	Explain the following : i) Broadcast and Multicast routing ii) Controlled flooding and Spanning tree broadcast.	8
	b.	How routing algorithms and classified? Brief on Link state routing algorithm.	8
	c.	Give the importance of Network Address Translation.	4

Contd…2

UNIT - V

9	a.	Discuss the services offered by a link-layer protocol.	10
	b.	Explain any two error detection and correction techniques.	6
	c.	Discuss briefly the elements of a wireless network.	4
10	a.	Present any two multiple access protocols.	8
	b.	How a wired link differs from a wireless link?	6
	c.	Write a sketch of IEEE 802.11 frame with all the fields. Brief on the functions of each field.	6

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