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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

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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