U.S.N A. Autonomous Institution affiliated to VTU, Belgaum) A. 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. UIT - 1 a. What is internet? Explain Nuts and Bolts of Internet. b. Explain the functions of layered architecture of TCP/IP protocol. a. Define delay. Explain types of delay. b. Explain various guided transmission model. UIT - II a. How are DNS servers classified? Explain. b. Discuss the need for web caching. c. Compare HTPP non-persistent connections with HTTP persistent connection with and without pipelining. 4 a. List and explain the services provided by DNS. Discuss the need for DNS caching. b. Define FTP. Explain working of FTP. 4 a. List and explain the prominent functions of Transport layer. b. With an example, show the working of SR protocol. How GBN differs from SR protocol? a. Write TCP segment structure and brief on functions of various fields. b. How do you estimate RTT and timeout? Discuss how to set and manage retransmission timeout interval. c. Write the three steps of TCP connection management. UIT - IV 7 a. Explain the architecture of a router with a neat sketch. b. With neat diagram, explain IPv4 datagram format. 8 a. Explain the following : i) Broadcast and Multicast routing ii) Controlled flooding and Spanning tree broadcast. b. How routing algorithms and classified? Brief on Link state routing algorithm. c. Give the importance of Network Address Translation.	P1	5MCA31 <i>Page No</i> 1	
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		ii) Controlled flooding and Spanning tree broadcast.	
c. Give the importance of Network Address Translation.	b.	How routing algorithms and classified? Brief on Link state routing algorithm.	
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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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