



310250

Seat No.	
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**T.E. (Computer Engineering) (Semester – II) Examination, 2014  
COMPUTER NETWORKS  
(2008 Course)**

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answers to the **two** Sections should be written in **separate** answer books.  
2) Answer **any three** questions from **each** Section.  
3) **Neat** diagrams must be **drawn wherever** necessary.  
4) Figures to the **right** side indicate **full** marks.  
5) **Use** of calculator is **allowed**.  
6) Assume **suitable** data, if **necessary**.

SECTION – I

1. a) What are the Nuts and Bolts for Internet ? Explain with suitable diagram. **8**  
b) Compare Circuit Switching and Packet Switching Techniques of Network Core. Explain in brief the functionality of DHCP server. **8**

OR

2. a) Draw and explain the functionality of Internet Protocol Stack. **8**  
b) Compare SMTP with HTTP. **8**  
3. a) Draw and explain TCP Segment Structure. **8**  
b) Suppose that we have the following three 16bit words. **4**

0110011001100000

0101010101010101

1000111100001100

Calculate the UDP Checksum for above.

- c) How connection Management is done in TCP ? **6**

OR

P.T.O.



4. a) Explain TCP Congestion Control concept in detail. 8  
 If MSS = 500 bytes and RTT = 200msec then what is resulting initial sending rate ?
- b) Explain Multiplexing and De-multiplexing in transport layer. 4
- c) Why UDP does not provide reliable data transfer service ? Justify it. 6
5. a) Describe Integrated service and differentiated services. 8
- b) What is QoS ? Explain QoS parameters. 8
- OR
6. a) Explain the working of RSVP in detail. 8
- b) Explain different Scheduling Algorithm. 8

#### SECTION – II

7. a) Explain the features of IPV6 with its datagram format. Consider following IP addresses : 8  
 i) 233.1.1.3                      ii) 223.1.2.5  
 iii) 223.1.3.8                    iv) 223.1.8.10  
 Find out NetId and HostId of above IP address.
- b) Which Protocol is used to obtain IP address by giving physical address ? Explain in detail ? And 255.255.255.255 is what type of IP Address. 8
- OR
8. a) Compare ARP with RARP. 8
- b) Explain concept of Internet Control Message Protocol. 8
9. a) Explain Link state routing Algorithm. 8
- b) Write a short note on Hierarchical Routing. 4
- c) Compare RIP and OSPF. 6
- OR
10. a) How Distance Vector Routing Algorithm is work ? 8
- b) Explain Routing Policy of BGP. 6  
 Compare Broadcast and Multicast Routing. 4
11. a) Explain the functionality of Hubs and Switches. 8
- b) What is the goal of Point to Point Protocol ? Explain in detail. 8
- OR
12. a) Explain the Principle Characteristics of ATM. 8
- b) Draw and explain Multiprotocol Label Switching (MPLS) Header format. 8