

**University of Pune**  
**T.E. (Computer Engg)**  
**4363-257**  
**Examination - 2013**  
**Computer Networks**  
**(2008 Pattern)**

**Total No. of Questions : 12**

**[Total No. of Printed Pages :3]**

**[Time : 3 Hours]**

**[Max. Marks : 100]**

***Instructions :***

- (1) Answer 03 question from each section.*
- (2) Answers to the two sections should be written in separate answer-books.*
- (3) Figures to the right indicate full marks.*
- (4) Neat diagrams must be drawn whenever necessary.*
- (5) Assume suitable data, if necessary.*

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Section I

- Q1. A) Compare file transfer using FTP and HTTP methods. [8]  
B) What is DNS? Explain with suitable example how query resolving process is done? [8]

OR

- Q2. A) What is internet? Explain protocol layers & service model in The Internet in detail. [8]  
B) State and explain different protocols used for e-mail. Differentiate between IMAP, POP3 and SMTP protocol. [8]
- Q3. A) Draw and explain –way handshake process of TCP [6]  
B) What is socket? List and explain various socket primitives required in TCP socket program on client and server side. [6]  
C) Differentiate between TCP and UDP protocol. Also comment on the applications supported by them. [6]

Or

- Q4. A) Explain significance of following flags in TCP header SYN, RST, FIN, PSH [6]  
B) Comment on types of ports? What is the range of port numbers used in

each type. [6]  
C) Explain flow control in TCP. [6]

Q5. A) Describe in brief Integrated Services and Differentiated services. [8]  
B) What is congestion? List various network parameters affected due to congestion. [8]

OR

Q6. A) Explain significance and working of RSVP protocol. [8]  
B) What is QoS. Explain QoS parameters. [8]

Section II

Q7. A) An ISP is granted a block of addresses starting with 120.60.4.0/22. The ISP wants to distribute these block to 100 (one hundred) organizations with each organization receiving just 8 (Eight) addresses. Design the sub-blocks and give the Slash Notations for each sub-block. Find out how many addresses are still available after these allocations. [8]  
B) Explain network layer issues in detail. [8]

OR

Q8. A) What is the significance of priority and flow label fields in IP v6. [8]  
B) Explain different types of messages in ICMP v6. [8]

Q9. A) Explain working MACA and MACW protocols with neat diagram. [8]  
B) Explain hierarchical routing in detail. [8]

OR

Q10. A) What are the drawbacks of Distance Vector Routing (DVR) and the solutions to recover them. [8]  
B) Explain in detail OSPF protocol. [8]

Q11. A) What is the purpose of PPP? Explain with state transition diagram. [8]  
B) Write a short note on any two. [10]  
1. ATM  
2. Switches  
3. LAN bridges

OR

Q12. A) Explain Bit Oriented protocol at data link layer. [8]  
B) Explain the working of MPLS with suitable diagram. [10]