

Total No. of Questions : 12]

SEAT No. :

P828

[Total No. of Pages : 2

[4263] - 347

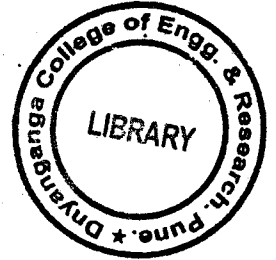
**T.E. (Computer Engg.)**  
**COMPUTER NETWORKS**  
**(2008 Pattern) (Semester - II)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates :

- 1) Answer three questions from section-I and three questions from section-II.
- 2) Answers to the two sections should be written in separate books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Assume suitable data if necessary.
- 5) Figures to the right indicate full marks.



**SECTION - I**

- Q1)** a) Assume that you are accessing a web page through a browser on a computer. Explain step by step various things that happen at various layers on client side and server side. Assume both uses TCP/IP protocol stack. [8]
- b) Compare file transfer using SMTP and HTTP methods. [8]

OR

- Q2)** a) What is DNS? Explain with suitable example process of delivering of requested web page on your computer? [8]
- b) Explain in brief functionality of Web server, Proxy server, Mail server. [8]
- Q3)** a) What is a 3-way handshake in TCP? Explain in brief why it is required? [6]
- b) Draw UDP header structure, Explain significance of each field in UDP header. What is pseudo-header? [6]
- c) Explain multiplexing and de-multiplexing in transport layer. [6]

OR

- Q4)** a) "UDP does not guarantee reliability in data transfer but delivered data is error free" Justify this statement. [6]
- b) What is socket? List and explain various socket primitives required in TCP socket program on client and server side. [6]
- c) Explain significance of following flags in TCP header SYN, RST, FIN, PSH. [6]

**P.T.O.**

- Q5)** a) Describe metrics measuring QoS (Quality of Service) [8]  
 b) What is congestion? List various network parameters affected due to congestion. [8]

OR

- Q6)** a) Explain in brief the terms RTT, CW (Cong Win) and AIMD for TCP. [8]  
 b) Describe any link scheduling algorithm. [8]

**SECTION - II**

- Q7)** a) Describe in short the importance and working of ARP protocol? What is ARP cash. [8]  
 b) Draw and explain IPV6 header. Explain the significance of extension header. [8]

OR

- Q8)** a) Consider a class-C network which needs to be subnetted into 3 subnets. Calculate the appropriate network mask. How many number of hosts can be supported by each subnet. [8]  
 b) Describe in brief ICMP error and query messages (at least 2 each). [8]

- Q9)** a) What is path vector routing? Discuss its advantages over Distance Vector routing. [8]  
 b) Explain routing protocols RIP and BGP. [8]

OR

- Q10)** a) Explain in brief hierarchical routing and discuss its advantages. [8]  
 b) What is a difference between forwarding and routing? Describe link state routing algorithm. [8]

- Q11)** a) Explain the working of Hubs, Switches and Routers. [6]  
 b) Draw and explain ATM Cell Header Structure for user Network interface. [6]  
 c) Explain the working of PPP. [6]

OR

- Q12)** a) Draw and Explain HDLC frame format. [6]  
 b) Differentiate between Bridge, Router and Switches. [6]  
 c) Explain in brief working of MPLS. [6]

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