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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.*

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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]**

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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]

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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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