Total No. of Questions : 10]

SEAT No. :

P3629

[Total No. of Pages : 3

[5560]-585
T.E. (Computer)
COMPUTER NETWORKS
(2015 Course) (Semester-I)

Time :2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right side indicate full marks.***
3) ***Use of calculator is allowed.***
4) ***Assume suitable data, if necessary.***

Q1) a) Compare Circuit switching and Packet switching with reference to call setup, physical path, Bandwidth, congestion, transmission, transparency. **[6]**

b) Represent 10000101111 using Manchester and differentnal Manchester line coding technique. **[4]**

OR

Q2) a) Which TCP/IP layer is responsible for functioning of the following? **[6]**

i) Determining the best path to route the packets

ii) Providing end-to-end process communication with reliable service

iii) Error Control & Flow control

iv) Provides access for end user

v) Interface to transmission media

vi) File Transfer

b) Define DSSS and explain how it achieves bandwidth spreading. **[4]**

Q3) a) Explain HDLC (I,S and U frame) in detail? **[6]**

b) What are the differences between switch and Router ? Explain. **[4]**

OR

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Q4) a) Explain CSMA/CD in detail? **[4]**

b) Calculate the throughput for stop-and wait protocol, if the frame size is 4800 bits, bit rate is 9600 bps, within distance 2000km with speed of propagation 20,00,00 km/s. **[6]**

Q5) a) I asked my Internet Service Provider (ISP) for some static IPs. They responded that I have been allocated 129. 22. 8.32/29. How many IPs can I setup/provision in my network? What is the first and Last IP address? **[4]**

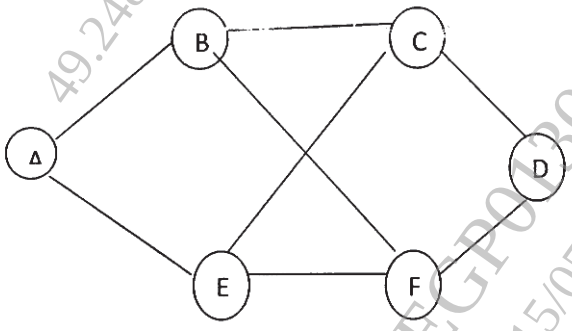
b) Explain ICMP protocol in detail. **[6]**

c) Explain Network Address Translation (NAT) in detail. **[8]**

OR

Q6) a) A host with IP address 130.23.3.20 and physical address B 23455102210 has a packet to send to another host with IP address 130.23.43.25 and physical address A46EF45983AB. The two hosts are on the same Ethernet network. Show the ARP request and reply packets encapsulated in Ethernet frames. **[6]**

b) Consider the subnet given in fig. Distance vector routing is used and the following vectors have just come in to router C: from B (5, 0, 8, 12, 6, 2); from D (16, 12, 06, 0, 9, 10); and from E (7, 6, 3, 9, 0, 4). The measured delays to B,D and E are 6, 3 and 5 respectively. What is C's new routing table? Give both the outgoing line to use and the expected delay? **[6]**



c) Explain the concept of Classful (A, B, C, D and E) and Classless addressing. **[6]**

Q7) a) Explain RTP protocol in detail. **[8]**

b) What are three different types of sockets? Explain various socket primitives used in connection oriented client server approach. **[8]**

OR

Q8) a) What is the difference between TCP and UDP, Explain TCP Header format in detail. **[8]**

b) What causes Silly Window syndrome? How it is avoided? Explain. **[8]**

Q9) a) What is the difference between persistent & non persistent HTTP? Explain HTTP request and reply message format. **[8]**

b) Why we need DHCP? Explain in detail. **[8]**

OR

Q10) a) What is DNS? Explain its various resource records with example. **[8]**

b) Explain FTP? Write any four FTP commands. **[8]**