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RVK/KW/13–3396

Eighth Semester B. E. (C. E.) Examination

MODERN COMPUTER NETWORKING

Elective – I

Time : Three Hours] [Max. Marks : 80

B. N. :
(1) Same answer book must be used for both section.
(2) All questions carry marks as indicated.
(3) Answer any **Three** questions from Section **A** and any **Three** questions from Section **B.**
(4) Due credit will be given to neatness **and** adequate dimensions.
(5) Assume suitable data wherever necessary.
(6) Illustrate your answers wherever necessary with the help of neat sketches.

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SECTION A

1. (a) Explain TCP/IP reference model for internet. 7

   (b) An organization is granted the block 130.34.12.64/26. The organization need 4 subnet. Find :—

   (i) Range of addresses in each subnet.

   (ii) Range of actual addresses used for configuration of machine.

   Design the subnet. 2 + 2 + 3

2. (a) What is address resolution issue ? How is it solved ? What is the use of cache in address resolution ? Explain. 5

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(b) Differentiate :—

(i) Socket and Accept Functions.

(ii) Sendto and write functions. 2 + 2

(c) Why 64 bit of data is returned with ICMP message ? 4

3. (a) Explain the use of following TCP/IP tools used for diagnosis of TCP/IP with Widows–NT.

(i) ipconfig.

(ii) arp.

(iii) ping. 3 + 2 + 2

(b) What is the identification of following address using IPV4 forma ?

(i) All O's + Valid hostid.

(ii) 127.X.Y.Z.

(iii) Valid netid + All 1's.

(iv) All 1's. 6

4. (a) An IPDATAGRAM is created with TL = 4020 octets by source including 20 byte header, identification = 14567. It is routed through the network supporting MTU = 1420 octets. The Fragmented datagram is again routed through the network supporting MTU = 820 octets. Draw the representation of each fragment of Original IP datagram with details of TL, Identification, Flags (D, m bit), offset and Byte range. Give proper explanation. 8

(b) Explain the working of DNS protocol. 5

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5. (a) Explain following performance tunning techniques :—

(i) Tunning "memory" performance.

(ii) Tunning "processor" performance.

(iii) Tunning "Disk" performance. 6

(b) Write an algorithm for routing IP datagram. 4

(c) Draw the Format of TCP Segment. 3

SECTION B

6. (a) Differentiate X.25, frame Relay and ATM. 6

(b) Explain ISDN protocol architecture. What are different channels used in ISDN ? 4+3

7. (a) Write the algorithm for FECN congestion control technique in frame Relay. Explain it. 4+4

(b) Explain ATM cell format. 5

8. Explain various ATM adaptation layer protocol developed to support different applications. 13

9. (a) Describe switching process in Frame Relay. What is the significance of DLCI ? 6

(b) Explain different service categories available in ATM . 7

10. Write short note on :—

(i) SSCOP.

(ii) B–ISDN.

(iii) Quality of Service in Frame Relay ? 4+5+5

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