Roll No. ....

MCSE/MSE(N)–105

M. E./M. Tech. (First Semester)
EXAMINATION, March, 2010
ADVANCE COMPUTER NETWORKING

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Explain the function of the following layer in ISO OSI model : 12
   (i) Data Link Layer
   (ii) Network Layer
   (iii) Transport Layer

   (b) Why do HTTP, FTP, SMTP, POP3 and IMAP run on top of TCP rather than on UDP ? Discuss. 4
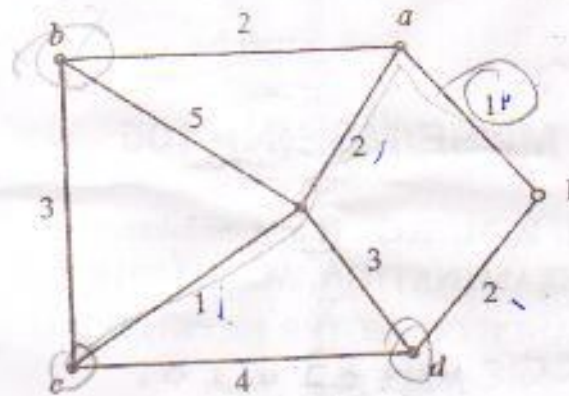
   (c) A system has an N-layer protocol hierarchy. Applications generate message of length M bytes. At each of the layers, a h-byte header is added. What fraction of the network bandwidth is filled with header ? 4

2. (a) Explain Routing Information Protocol. 10

   (b) Find the shortest paths to all other nodes starting from node I. The weights shown are like costs : 10

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3. Explain the following in brief :   20

    (i) Get, Post, Put methods of HTTP

    (ii) Telnet and Rlogin

    (iii) SMTP

    (iv) MIME

4. (a) Explain the following related to blue tooth :   10

    (i)   Scatternet

    (ii) Piconet

    (iii) Link Manager (LMP)

    (iv) Telephony control specification (TCS)

  (b) Explain the hidden station and exposed station problem of wireless LAN.   10

5. (a) How is a network ID assigned in a CIDR IP address ?   5

  (b) How CIDR reduces the number of entries in a routing table ?   5

  (c) Explain count-to-infinity problem of distance vector routing. What are the advantages of link state routing over distance vector routing ?   10

6. Make comparison between the following :   20

   (a) Physical network management and logical network management

   (b) IPV6 and IPV4

7. (a) Illustrate physical medium characteristics of ATM.   5

   (b) Explain service classification of AAL layer.   5

   (c) ATM is connection-oriented protocol, how can it support connectionless services ?   5

   (d) Write about statistical multiplexing used in ATM networks.   5

8. Write notes on any *two* of the following :   20

   (a) Fiber Optics

   (b) Multicast Open Shortest Path First

   (c) VPN addressing

   (d) CDMA

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