Total No. of printed pages = 5

CSE-3203/CN/6th Sem/2013/M

COMPUTER NETWORKS

Full Marks – 100

Pass Marks – 30

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *six* from the rest.

1. (a) Fill up the blanks : 1×5=5

(i) Packets are formed in ——— layer.

(ii) Presentation layer is responsible for ———.

(iii) HTTP works in ——— layer.

(iv) TTL stands for ———.

(v) MAC address consists of ——— bits.

[Turn over

(b) Write true or false : 1×5=5

(i) MAC sublayer works in session layer.

(ii) TCP and UDP are example protocol of transport layer.

(iii) Minimum number of transmission line required for serial communication is one.

(iv) 1 Mbps data transfer is equivalent to 1048576 bits per second in networking.

(v) A datagram IP header must contains source and destination IP addresses.

2. Write short notes on any *five* : 3×5=15

(a) Broadcasting

(b) Multicasting

(c) Encapsulation

(d) UDP (User Datagram Protocol)

(e) DNS (Domain Name System)

(f) E-mail

(g) HTTP (Hyper Text Transfer Protocol).

3. (a) What is a protocol suite ? 3

(b) Draw the protocol hierarchies of ISO OSI model. 6

(c) Explain any two layer with proper example. 6

4. Describe with diagram the following : 5×3=15

(a) LAN (Local Area Network)

(b) MAN (Metropolitan Area Network)

(c) WAN (Wide Area Network).

5. (a) What are the design issues of Data Link Layer ? 3

(b) How does the packets related with frames ? Explain with diagram. 4

(c) Describe any one service provided by the Data Link Layer. 8

6. (a) What is a ALOHA system ? 3

(b) Explain two different types of ALOHA system with example. 6+6=12

7. (a) What are connectionless and connection oriented service ? 6

(b) Draw the protocol hierarchies of TCP / IP model. 3

(c) Explain how connection is established in TCP / IP protocol. 6

8. (a) What are the different classes of IP addressing ? 3

(b) What are loopback addresses ? 2

(c) Write all the IP ranges for each of the first three classes of IP addressing with their mask addresses. 6

(d) For a classless network of IP ranges 172 . 16 . 20 . 0/24.

(i) Find the network route address.

(ii) Find the broadcast address.

(iii) Find the IP address for starting and ending machines. 1+1+2=4

9. (a) What are encryption and decryption ? 6

(b) What are symmetric key algorithms ? 4

(c) Explain the Caesar Cipher algorithm. 5