COMPUTER COMMUNICATION AND NETWORK

Full Marks – 70

Pass Marks – 28

Time – Three hours

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

Answer question No. 1 and any *four* questions from the rest.

1. (a) State true or false : 1×5=5

   (i) Internet is a local computer network.

   (ii) Physical layer deals with the physical and electrical specifications.

   (iii) In cyclic redundancy checking CRC is the remainder.

   (iv) In packet switching an end to end path is established before any data can be sent.

[Turn over

(v) The session layer establishes, manages and terminates connection sessions.

(b) Fill up the blanks : $1 \times 5 = 5$

(i) The number of bit positions in which two code words differ is called _____ .

(ii) Error detection is usually done in _____ layer of OSI.

(iii) In _____ flow control method receiver ACKs each data frame received.

(iv) _____ divide the networks into smaller segments in order to reduce traffic.

(v) The facility that was created to help the programmer write client-server software is known as _____ .

2. (a) Discuss briefly the main design issues of Data Link layer. 8

(b) Briefly write functionalities of different OSI layers. 7

3. (a) What is the difference between Pure ALOHA and Slotted ALOHA ? Expalin CSMA/CD protocol and draw its flowchart.   3+7=10

   (b) What are the applications of Computer Network ?   5

4. (a) What are the services provided by the transport layer to the upper layer ? Describe the fields of the TCP header.   2+8=10

   (b) Differentiate between connection-oriented and connectionless services.   5

5. (a) What are the different transmission media ? Explain in detail about twisted pair and coaxial cable.   10

   (b) Differentiate between Link State and Distance Vector routing algorithms.   5

6. (a) What is Framing ? Describe the different methods of framing.   9

   (b) What is flooding ? Why flooding technique is not commonly used for routing ? In what situation flooding is most appropriate ? How the drawbacks of flooding can be minimized ?   1+2+1+2=6

7. Write short notes on any *three* : 5×3=15

(i) Switching

(ii) HTTP

(iii) ISDN

(iv) Application Layer

(v) Remote Procedure Call

(vi) Cryptography.