Time : 2 Hours   **Computer Organization & Operating System**

Subject Code

V	3	1	5

Total No. of Questions : 5   **(Printed Pages : 4)**   **Maximum Marks : 50**

INSTRUCTIONS : (*i*)   *All* questions are compulsory.

(*ii*)   Figures to the right indicate full marks.

(*iii*)   Write the number of question and sub-question clearly.

(*iv*)   Draw neat diagrams wherever necessary.

(*v*)   Answer to every question shall start on a fresh page.

1.   (A)   Answer the following in one word each :   (2x1=2)

(1)   Name the topology in which all the work stations are connected using a single communication line.

(2)   Name the transmission mode in which communication channel is used in both direction, but one at a time.

(B)   Answer the following questions.   (2x2=4)

(1)   What is MAN? Explain in three to four lines.

(2)   Briefly explain the working of logical topology Token Ring.

(C)   Answer the following question.   (1x4=4)

(1)   Describe with the help of neat diagram Tree Topology.

                    OR

(2)   Describe with the help of neat diagram Ring Topology.

2. (A) Answer the following in one word each : (2x1=2)

   (1) Name the technique that enables the broadband media to Support multiple data channels.

   (2) Name the term used for any connection which is made on the network.

   (B) Answer the following questions. (2x2=4)

   (1) Explain peer to peer network in three to four lines.

   (2) What is EDI? Give two benefits of EDI.

   (C) Answer the following question. (1x4=4)

   (1) Explain the working of web server on the network in six to seven lines.

   OR

   (2) Explain the working of Print server on the network in six to seven lines.

3. (A) Answer the following in one word each : (2x1=2)

   (1) Name the device that enables signals to travel longer distance over the network by regenerating the received signals.

   (2) Name the cable that uses pulsing laser light to carry data on the network.

   (B) Answer the following questions. (2x2=4)

   (1) What is the role of NIC in a computer network?

   (2) Give two points of differences between broadband and baseband transmission.

   (C) Answer the following question. (1x4=4)

   (1) With a neat labelled diagram describe twisted pair cable.

OR

(2)   What are bridges ? How do they work on the network?

4.   (A)   Answer the following in one word each :   (2x1=2)

(1)   Name the 128 bit long address that uniquely identifies a computer on the network.

(2)   Name the OSI layer which ensures that the data from the source arrives at the destination correctly and in proper sequence.

(B)   Answer the following questions.   (2x2=4)

(1)   State two advantages of TCP/IP.

(2)   What is SSH ? Explain in three to four lines.

(C)   Answer the following questions.   (1x4=4)

(1)   Explain the major functions and services performed by physical layer of OSI model.

OR

(2)   Explain the major functions and services performed by application layer of OSI model

5.   (A)   Answer the following in one word each :   (2x1=2)

(1)   Write the Linux shell command that picks up a given number of characters or fields from a specified file.

(2)   Name the data security mechanism which helps the user to restore the data files from the other stored media that are lost or destroyed by viruses.

(B)   Answer the following questions.   (2x2=4)

    (1)   What is firewall? State the different types of firewall techniques.

    (2)   Explain strong user authentication as one of the method to secure data on the network.

(C)   Answer the following question.   (1x4=4)

    (1)   Write a shell script in Linux that reads a number and check if it is a prime number.

OR

    (2)   Write the shell script in Linux which will read a file and arrange the content of the file in ascending order. Also count the total number of lines and words in the file