# CHAPTERWISE QUESTION

**Time: 2hrs**                     **COMPUTER SCIENCE XII**                     **Marks: 60**

## NETWORK DEVICES

**SECTION A**                                                    10 x 1 =10

1    Which of the following is not the Networking Devices?
     a. Gateways
     b. Linux
     c. Routers
     d. Firewalls

2    Which type of topology is best suited for large businesses which must carefully
     control and coordinate the operation of distributed branch outlets?
     a. Ring
     b. Local area
     c. Hierarchical
     d. Star

3    What kind of transmission medium is most appropriate to carry data in a
     computer   network     that is exposed to electrical interferences?
     a. Unshielded twisted pair
     b. Optical fiber
     c. Coaxial cable
     d. Microwave

4    The term HTTP stands for?                                            1
     a. Hyper terminal tracing program
     b. Hypertext tracing protocol
     c. Hypertext transfer protocol
     d. Hypertext transfer program

5    Which one of the following is the most common internet protocol?       1
     a. HTML
     b. NetBEUI
     c. TCP/IP
     d. IPX/SPX

6    Which one of the following is not a network topology?                  1
     a. Star
     b. Ring
     c. Bus
     d. Peer to Peer

7   How many versions available of IP?                                                    1
    a. 6 version
    b. 4 version
    c. 2 version
    d. 1 version

8   In specific, if the systems use separate protocols, which one of the following devices is
    used to link two systems?

        a. Repeater
        b. Gateway
        c. Bridge
        d. Hub

9   In which of the following switching methods, the message is divided into small packets?   1
    a. Message switching
    b. Packet switching
    c. Virtual switching
    d. None of the these

10  A collection of hyperlinked documents on the internet forms the ?                         1
    a. World Wide Web (WWW)
    b. E-mail system
    c. Mailing list
    d. Hypertext markup language

SECTION B ( VSA & SA)

11  _____a device that amplifies a signal being transmitted on the network.            1
12  A system designed in both Hardware as well as Software to prevent unauthorized access    1
    is termed as?
13  ARPANET stands for _____.                                                             1
14  A _____ is a topology for a Local Area Network (LAN) in which all the nodes are      1
    connected to a single cable. The cable to which the nodes connect is called a "backbone"
15  Which type of hub does not require power to forward the signals?                         1
16  Expand the following:                                                                   2
    i) XML ii) POP iii)TCP iv) IoT
17  What is a Network? What are the benefits of networks?                                    2
18  Define the following terms:                                                             2
    (i) Node (ii) Backbone (iii) Router (iv) Gateway
19  What is the purpose of using a Web Browser? Name any one commonly used Web              2
    Browsers?
20  Write the  differences between Telnet and FTP.                                          3

21. Compare  Router and Gateway.                                                        2
22. Explain  Point-to-Point Network protocol                                            3

21. Explain the  main types of web hosting:                                                 4
22. What is webscript. Explain the two types of scripting languages used                    5

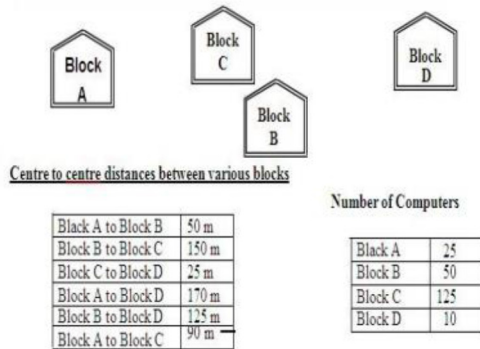23. Distinguish between LAN & WAN. Explain its advantages and disadvantages.                    5

24. Explain the following network topology

     i.      Tree Topology       ii.  Mesh Topology     iii.  Ring Topology          5


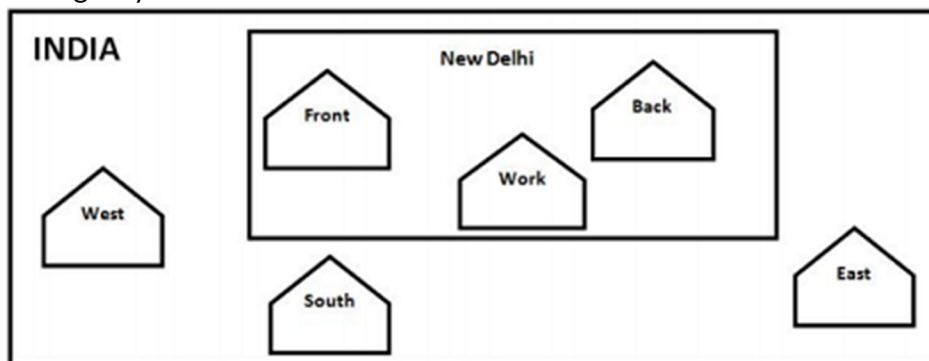**SECTION C ( CASE BASED STUDY)**                                             **2 x 5 =10**

21    Knowledge Allaround Organization has set up its new Centre at Mumbai for its office and web based activities. It has 4 blocks of building as shown in the diagram below



Centre to centre distances between various blocks

| | |
|---|---|
| Black A to Block B | 50 m |
| Block B to Block C | 150 m |
| Block C to Block D | 25 m |
| Block A to Block D | 170 m |
| Block B to Block D | 125 m |
| Block A to Block C | 90 m |

Number of Computers

| | |
|---|---|
| Black A | 25 |
| Block B | 50 |
| Block C | 125 |
| Block D | 10 |

| | | |
|---|---|---|
| i | Suggest a layout of connections between the blocks. | 1 |
| ii | Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason | 1 |
| iii | Suggest the placement of the following devices with justification<br>i) Repeater ii) Hub Switch | 1 |
| iv | The organization is planning to link its front office situated in the city in the hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed. | 1 |
| v | Name the device required to prevent unauthorized access to and from the network. | 1 |


22.     Hindustan Connecting World Association" is planning to start their offices in four major cities in India to provide regional IT infrastructure support in the field of Education & Culture. The company has planned to set up their head office in New Delhi in three locations and have named their New Delhi offices as "Sales Office", "Head Office" and "Tech Office". The company's regional offices are located at "Coimbatore", "Kolkata" and "Ahmedabad".
A rough layout of the same is as follows:



Approximate distances between these offices as per network survey team is as follows:

| Place | From Place | To Distance |
| --- | --- | --- |
| Head Office | Sales Office | 10 KM |
| Head Office | Tech Office | 70 Meter |
| Head Office | Kolkata Office | 1291 KM |
| Head Office | Ahmedabad Office | 790 KM |
| Head Office | Coimbatore Office | 1952 KM |

In continuation of the above, the company experts have planned to install the following number of computers in each of their offices:
Head Office 100
Sales Office 20
Tech Office 50
Kolkata Office 50
Ahmedabad Office 50
Coimbatore Office 50

i. Suggest network type (out of LAN, MAN, WAN) for connecting each of the following set of their offices: - Head Office and Tech Office - Head Office and Coimbatore Office offices: - Head Office and Tech Office - Head Office and Coimbatore Office                                          1

ii.  Which device will you suggest to be procured by the company for connecting all the computers within each of their offices out of the following devices? - Modem - Telephone - Switch/ Hub                                                                                                            1

iii. Which of the following communication media, will you suggest to be procured by the company for connecting their local offices in New Delhi for very effective and fast communication? - Ethernet Cable - Optical Fiber - Telephone Cable                            1

iv.  Suggest a cable/ wiring layout for connecting the company's local offices located in New Delhi                                                                                                                        1

v.  The organization is planning to link its front office situated in the city in the hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed.                                                                                                               1