Scheme - I

Sample Question Paper

Program Name : **Diploma in Information Technology**

Program Code : **IF**

Semester : **Fourth**

Course Title : **Computer Networks**

Marks : **70**

22417

Time: 3 Hrs.

Instructions:

(1) All questions are compulsory.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data if necessary.

(5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.   **10 Marks**

     a. Define computer network.
     b. Describe the use of NIC.
     c. State any two basic network services.
     d. Differentiate between client-server and peer-to-peer network [Any 2 points].
     e. List any four Internet Layer protocols.
     f. Define following terms:
         i. physical address
         ii. IP address
     g. Write any two specifications of switch.

Q.2) Attempt any THREE of the following.   **12 Marks**

     a. State any four network devices and describe role of each device.
     b. Draw OSI reference model and write functions of each layer.
     c. Describe networking as a layered approach.
     d. Differentiate between TCP and UDP [Any four points].

Q.3) Attempt any THREE of the following.   **12 Marks**

     a. Classify the network based on geographical area & Transmission Technology.
     b. With suitable diagram describe star topology and ring topology.
     c. Describe major functions of the network layer in TCP/IP protocol suit.
     d. Describe classification of Host to network layer protocols.

Q.4) Attempt any THREE of the following.   **12 Marks**

    a. State and describe any four benefits of computer network.
    b. Draw structure of twisted pair cable. Write any four features.
    c. Describe functions of physical layer and data link layer of OSI model.
    d. Identify class for following IP addresses:
        i. 125.17.102.253
        ii. 128.1.1.30
        iii. 222.255.254.253
        iv. 224.0.0.0
    e. Describe Network Operating System with its types.

Q.5) Attempt any TWO of the following.   **12 Marks**

    a. An Organization needs to transfer large data files from Mumbai office to Delhi office. Suggest and justify protocols used in all layers of TCP/IP Protocol suite while file transmission.
    b. Differentiate between IPv4 and IPv6.
    c. Design suitable network layout for an organization with five departments (10 users each), shared print server and a network server. List all components in layout.

Q.6) Attempt any TWO of the following.   **12 Marks**

    a. Write procedure for following :
        i. To share file
        ii. ii. To share printer
    b. Design a network of class B with network address 136.10.0.0 with 2 subnets. State the subnet mask used and subnet addresses.
    c. State devices and its specifications for setting a wireless network.

Scheme - I

Sample Test Paper - I

Program Name : **Diploma in Information Technology**

Program Code : **IF**

Semester : **Fourth**

Course Title : **Computer Networks**

Marks : **20**

22417

Time: 1 Hour

Instructions:

(1) All questions are compulsory.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data if necessary.

(5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR. **08 Marks**

a. State any two advantages of computer network.

b. Classify network based on network relationships.

c. Differentiate between Hub and Switch. (Any two points)

d. Draw diagram for bus topology.

e. List types of cables used in network.

f. Define Subnet. Give its importance.

Q.2 Attempt any THREE. **12 Marks**

a. Differentiate between peer-to-peer and client server network.

b. Describe the use of following device:

   i.   Repeater

   ii.   Gateway

   iii.   Bridge

   iv.   Router.

c. Elaborate importance of NIC in computer network.

d. Describe distributed network computing model.

Scheme - I

Sample Test Paper - II

Program Name	: **Diploma in Information Technology**
Program Code	: **IF**
Semester	: **Fourth**
Course Title	: **Computer Networks**
Marks	: **20**

22417

Time: 1 Hour.

Instructions:

(1) All questions are compulsory.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data if necessary.

(5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.   **08 Marks**

    a. State two protocols of Transport layer.

    b. State functions of Network layer.

    c. Give two examples of resource sharing in computer network.

    d. Outline the need of DNS in computer network.

    e. State units of data transfer at each layer of TCP /IP protocol suit.

    f. Describe Working of BOOTP.

Q.2 Attempt any THREE.   **12 Marks**

    a. State and describe various classes used for IP addressing.

    b. Differentiate between TCP/IP and OSI models.

    c. State specific function of following protocols:

        i. IP

        ii. ARP

        iii. RARP

        iv. ICMP

    d. Describe procedure to configure DHCP server.