



17429

21718

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
 - (2) *Illustrate your answers with neat sketches wherever necessary.*
 - (3) *Figures to the right indicate full marks.*

Marks

1. A) Attempt **any six** :

(6×2=12)

- a) Differentiate between computer Network and human Network.
- b) State any two advantages of Bus topology.
- c) Describe the types of hubs.
- d) Define following terms :
 - a) Static router
 - b) Dynamic router.
- e) State three advantages of optical fiber cable.
- f) State the need of computer network.
- g) Define the following term : Roaming.
- h) State the names of two sublayers of data link layer.

B) Attempt **any two** :

(2×4=8)

- a) State whether bus is active or passive network. Justify.
- b) State and explain network features.
- c) State the functions of :
 - 1) Hub
 - 2) Repeater
 - 3) Bridge
 - 4) Router.

2. Attempt **any four** of the following :

(4×4=16)

- a) Draw and explain the working of star topology.
- b) Describe role of modem in Networking.
- c) Draw and explain twisted pair cable.
- d) Describe any four situations in which server based networks are more superior to peer to peer network.
- e) Give the function of data link layer.
- f) State the limitation of IPV₄.

P.T.O.



Marks
(4×4=16)

3. Attempt any four :

- a) Compare TCP and UDP.
- b) Explain the services provided by network layer of the OSI model.
- c) Describe the various IP address classes with suitable example.
- d) Classify networks on the basis of their geography and define.
- e) Describe any four physical characteristics of fiber optic cable.
- f) Explain tree topology with neat diagram.

4. Attempt any four :

(4×4=16)

- a) State the reason of implementing network.
- b) Compare star bus with star-ring topology.
- c) State name of protocol used at different layers of OSI model.
- d) Explain the factors to be considered while selecting a cable to establish a network.
- e) Compare IPV₄ and IPV₆.
- f) Describe the architecture of client-server network with its advantages and disadvantages.

5. Attempt any four :

(4×4=16)

- a) Explain registered and unregistered IP address.
- b) Describe carrier sense multiple access with collision detection.
- c) Explain horizontal and vertical communication.
- d) Compare wire and wireless transmission.
- e) What is NIC ? State three functions of NIC.
- f) Compare peer to peer and client-server network.

6. Attempt any two :

(8×2=16)

- a) Explain protocol used in internet layer in TCP/IP.
 - b) Explain OSI model with neat diagram. Which layer of OSI model packages raw data bit into data frames ? Describe bit stuffing with one example.
 - c) How cross cable is created ? Draw figure and explain. Give its use.
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