

Vidyalankar

S.Y. Diploma : Sem. IV [CO/CD/CM/CW]

Computer Network

Prelim Question Paper

Time: 3 Hrs.]

[Marks : 100

- 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) Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.

1. (a) Attempt any **SIX** of the following : [12]
 - (i) Discuss the mode for propagating light along optical channels.
 - (ii) What are header and trailers and how do they get added and removed?
 - (iii) Why are protocols needed?
 - (iv) How are the guided media differing from unguided transmission media?
 - (v) What are the responsibilities of data link layer?
 - (vi) What are the four internetworking devices?
 - (vii) Define IP address.
 - (viii) What is meant by segmentation?

- (b) Attempt any **TWO** of the following : [8]
 - (i) What is the difference between network layer delivery and the transport layer delivery?
 - (ii) Explain about Coaxial Cable.
 - (iii) Compare circuit-switched and packet-switched networks.

2. Attempt any **FOUR** of the following : [16]
 - (a) Explain the problems in OSI Model and Protocols.
 - (b) Describe Bluetooth Architecture
 - (c) Differentiate Connection-Oriented and Connectionless Services.
 - (d) Write a short note on Satellite communication
 - (e) What are the Services provided by Network layer to the Transport layer?
 - (f) Compare the two methods of serial transmission.

3. Attempt any **FOUR** of the following : [16]
 - (a) Briefly discuss about Internetwork routing.
 - (b) Write a short note on Bus and Star Topology.
 - (c) Explain in detail about ISO-OSI reference Model.
 - (d) Explain about client-server model.
 - (e) Explain vertical communication in OSI
 - (f) Explain about Peer-to-peer Communication.

4. Attempt any **FOUR** of the following : [16]
 - (a) Compare IPV4 and IPV6 (Any four Point)
 - (b) Explain subnet masking.
 - (c) Explain dual cable and single cable systems in broadband coaxial cable.

- (d) What is the difference between single mode and multimode fibers in fiber optic networks?
- (e) Write short notes on interface, service and protocol.
- (f) Write about the Data Link layer design issues.

5. Attempt any **FOUR** of the following :

[16]

- (a) Explain address resolution protocol.
- (b) Write in short about Hub, Repeater, Bridge and switch
- (c) Compare Virtual-Circuit and Datagram Subnets
- (d) Explain TCP/IP model with neat diagram.
- (e) Write the differences between WiFi and Wi-MAX.
- (f) Describe TCP and UDP.

6. Attempt any **FOUR** of the following :

[16]

- (a) Discuss SLIP and PPP in detail
- (b) Explain IPv6 header format in detail
- (c) (i) How many subnets and hosts per subnet can you get from the network 172.28.0.0/26?
(ii) Which subnet does host 172.24.43.112/25 belong to?
(iii) What is the last valid host on the subnetwork 10.33.192.0/20?
(iv) Which subnet does host 192.168.51.70/28 belong to?

