

**Scheme G**  
**Sample Test Paper-I**

**Course Name : Diploma in Computer Engineering Group**

**Course Code : IF**

**Semester : Fourth**

**17430**

**Subject Title : Data Communication Network**

**Marks : 25 Marks**

**Time: 1 Hour**

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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
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q.1 Attempt Any THREE.**

9 Marks

- a) Define Data Communication. List its fundamental Characteristics.
- b) Define error? List and describe types of error.
- c) State fiber optic cable losses.
- d) List and explain three types of transmission modes.

**Q.2 Attempt any TWO.**

8 Marks

- a) Compare Guided Media and Unguided media (any four points).
- b) Describe any two types of protocol.
- c) Describe Satellite communication with neat diagram. Give its limitation.

**Q.3 Attempt any TWO.**

8 Marks

- a) Describe Time Division Multiplexing with neat diagram.
- b) Compare TDM and FDM (Any Four Points).
- c) Describe Serial transmission. Give its advantage and disadvantages.

**Scheme G**

**Sample Test Paper-II**

**Course Name : Diploma in Computer Engineering Group**

**Course Code : IF**

**Semester : Fourth**

**17430**

**Subject Title : Data Communication Network**

**Marks :25 Marks**

**Time: 1 Hour**

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4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q1. Attempt any THREE**

**9 Marks**

- a) Compare connection oriented and connection less communication.
- b) What is internetworking? What are the problems associated with it.
- c) Define IP address? Describe the classes of IP address.
- d) List the names of protocols for following layers:
  - a. Application
  - b. Transport
  - c. Presentation

**Q2. Attempt any TWO**

**8 Marks**

- a) Compare TCP/IP and OSI (four points)
- b) Describe RARP with its application.
- c) What are switches? How it is better than Hub.

**Q3. Attempt any TWO**

**8 Marks**

- a) What are the ways to access the internet? Describe any one.
- b) What is VPN? Describe it.
- c) What is WAN? How it is differ from LAN.

**Scheme G**  
**Sample Question Paper**

**Course Name : Diploma in Computer Engineering Group**

**Course Code : IF**

**Semester : Fourth**

**Subject Title : Data Communication Network**

**Marks : 100**

**17430**

**Time: 3 Hour**

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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
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q.1 (A) Attempt any SIX of the following**

**12 Marks**

- a. Define Protocols. Why its is needed?
- b. What is Error? Enlist types of errors.
- c. Compare Guided media and Unguided Media. (2 Points)
- d. What is Peer-to-Peer Process?
- e. What are the problems in internetworking?
- f. What is IP Address? Why it is require?
- g. What is repeater? Give its use.
- h. What is SMDS?

**Q.1 (b) Attempt any TWO of the following**

**08 Marks**

- a. List and describe various Communication Modes.
- b. Draw neat diagram for Circuit switching. Explain in brief
- c. Compare TCP and UDP (4 points)

**Q.2 Attempt any FOUR of the following**

**16 Marks**

- a. Define Standards. List various Standard Organizations.
- b. Compare TDM and FDM
- c. Draw construction of Fiber optic cable. Describe its construction in brief.
- d. Explain Asynchronous, Synchronous Communication

- e. Draw OSI Reference Model. Describe working of any two layers.
- f. Describe working of Token Ring. Give its advantages and disadvantages over conventional Ring Topology.

**Q.3 Attempt any FOUR of the following**

**16 Marks**

- a. Describe following
  - i. Wi-Fi
  - ii. Wi-Max
- b. Draw Architecture of ISP.
- c. What is Topology? List various topologies.
- d. What is UDP? Give structure of UDP Packet.
- e. What is hybrid Topology? Give its advantage over other topology
- f. Describe following
  - a. Routers
  - b. Gateways

**Q.4 Attempt any FOUR of the following**

**16 Marks**

- a. Draw WAN Architecture.
- b. What is Multiplexing? Give its Type.
- c. What is WAN Addressing? Give its use.
- d. What is Virtual LAN? Describe with neat diagram.
- e. Describe working of ARP and RARP.
- f. Compare Analog signal and Digital Signal (4 Points)

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

**16 Marks**

- a. What is DNS server? Describe Concept of DNS.
- b. Describe Leased Line connection. Give its needs
- c. What is Persistent TCP Connection? Give its importance.
- d. Explain Hands off operation in Mobile telephone.
- e. Explain DQDB (Distributed Queue Dual Bus)?
- f. Describe FTP and TFTP.

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

**16 Marks**

- a. Describe Internet topology.
- b. Describe Cable Modem with neat diagram.

- c. Describe the application of IEEE Standards.
- d. Describe Following
  - i. Baud rate
  - ii. Data Transmission Rate
  - iii. Bandwidth
  - iv. Bits per rate
- e. Describe Dial Up network with its specifications.
- f. Compare Fast Ethernet and Gigabit Etherne

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