

✓ Part I: Short Questions

Q1. Define network environment?

- In Windows, a **network environment** means the setup where multiple computers and devices are connected for sharing resources.
 - Example: A Windows PC connected to a domain server in an office.
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Q2. What is peer-to-peer network?

- A network model where each computer can **share its resources** without a dedicated server.
 - Used in small home/office networks.
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Q3. What is client-server network?

- A network model where clients request services (login, file access) from a **central Windows Server**.
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Q4. Which operation is used in client-server network?

- **Request–Response operation.**
 - Example: User sends login request → server verifies → sends response.
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Q5. Difference between client-server and peer-to-peer network?

Feature	Client-Server	Peer-to-Peer
Server	Dedicated server	No central server
Control	Centralized	Distributed
Security	Strong	Weak
Cost	Expensive	Cheap

Q6. Describe transmission media.

- **Medium** through which data travels in Windows networks.
 - Types:
 - Wired → Ethernet cables.
 - Wireless → Wi-Fi, Bluetooth.
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Q7. Define Network Interface Card (NIC).

- A hardware component that connects a PC to a network.
 - Provides a unique **MAC address** for communication.
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Q8. Write steps to join a computer to a domain.

Chapter # 2

1. Right-click **Computer** → **Properties**.
 2. Click **Change Settings**.
 3. In “System Properties” select **Domain**, enter domain name.
 4. Enter domain admin credentials.
 5. Restart computer.
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Q9. What is troubleshooting and maintenance?

- **Troubleshooting:** Diagnosing and solving system/network problems (e.g., IP conflict).
 - **Maintenance:** Regular tasks like updating Windows, backups, antivirus scanning.
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Q10. What is file system and enlist its types?

- **File system:** Method of organizing and storing files on disk.
 - Types in Windows: **FAT16, FAT32, NTFS, exFAT**.
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Q11. Define network permission.

- **Rules in Windows OS** that define who can access files, folders, or printers.
 - Example: “Read” permission for students, “Full Control” for admin.
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Q12. Define task scheduling.

- Windows feature to run tasks automatically at a given time.
 - Example: Schedule disk cleanup or backups.
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Q13. Describe compress and un-compress data.

- **Compress:** Reduce file size using tools like ZIP.
 - **Un-compress:** Extract to original size.
 - Windows Explorer provides built-in compress option.
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Q14. What are offline files?

- A Windows feature that lets you access **network files even without connectivity**.
 - Changes sync back when online.
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Q15. Describe encrypt and decrypt data.

- **Encrypt:** Convert data into secure code.
 - **Decrypt:** Convert back to readable form.
 - Windows NTFS provides **EFS (Encrypting File System)** for encryption.
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✔ Part II: Long Questions

Q1. Explain the basic network components and describe each.

1. **Server:** Windows Server providing centralized services.
 2. **Clients:** PCs requesting services.
 3. **NIC:** Enables client PC to connect to LAN/WAN.
 4. **Transmission Media:** Ethernet cable/Wi-Fi.
 5. **Switch:** Connects multiple devices efficiently.
 6. **Router:** Connects network to Internet.
 7. **Shared Resources:** Printers, folders, applications.
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Q2. Write a short note on Hub, Switch, Router.

- **Hub:** Sends data to all connected PCs (less secure).
 - **Switch:** Sends data to specific PC using MAC address.
 - **Router:** Connects different networks (LAN ↔ Internet).
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Q3. Write client-end basic settings.

1. Set IP address and subnet mask.
 2. Configure DNS server.
 3. Join domain or workgroup.
 4. Set PC name and admin password.
 5. Enable file/printer sharing.
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Q4. What is client-server network? Also describe its advantages & disadvantages.

- **Definition:** Centralized model where Windows clients request services from a server.
 - **Advantages:**
 - Centralized management.
 - Security and backups.
 - Easy software deployment.
 - **Disadvantages:**
 - High cost.
 - Server failure → stops services.
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✨ **Extra Important Questions**

Q1. What is Active Directory?

- A Windows Server feature that stores network objects (users, groups, PCs).
- Used for centralized authentication.

Q2. What is DNS?

- **Domain Name System**, translates domain names into IP addresses.

Q3. What is DHCP?

- **Dynamic Host Configuration Protocol**, assigns IP addresses automatically to Windows clients.

Q4. Explain difference between Workgroup and Domain.

- **Workgroup:** No central server, each PC manages itself.
- **Domain:** Central server controls all clients via Active Directory.