

### **Short Answer Questions**

1. Define pervasive networking.
2. State two features of the modern Internet.
3. What is a computing cluster?
4. List two advantages of distributed multimedia systems.
5. What is indirect communication in parallel programming?

### **Structured Questions**

6. (a) Describe pervasive networking.  
(b) Give two real-life applications of pervasive networking.
7. (a) Explain the modern Internet.  
(b) Mention three services supported by the modern Internet.
8. (a) Describe a distributed multimedia system.  
(b) Explain how it improves performance.
9. (a) Explain the concept of a computing cluster.  
(b) Identify the main components of a cluster.

### **Design and Application Questions**

10. Design a simple computing cluster for a college laboratory showing:
  - Master node
  - Worker nodes
  - Network connection
11. A company wants to process large data quickly. Explain how a computing cluster would improve performance.
12. Describe how indirect communication is used in parallel programming to share data among processors.
13. Design a parallel processing system using shared memory and explain how synchronization is achieved.

### **Scenario-Based Questions**

14. A university uses online video lectures accessed by students in different locations.
  - (a) Identify the type of system used.
  - (b) Explain how networking improves its performance.
15. An organization connects several computers to perform complex calculations faster.
  - (a) Name the system used.
  - (b) Explain how tasks are distributed.
16. A mobile user accesses cloud services while moving between locations.
  - (a) Identify the networking concept involved.
  - (b) Explain its benefit.
17. A programmer uses message queues to allow processors to exchange information.
  - (a) Identify the communication method.
  - (b) State one advantage.

### **Essay Questions**

18. Discuss pervasive networking and its impact on modern computing.
19. Explain how internetworking improves performance in distributed systems.
20. Describe how remote invocation links distributed objects and components.
21. Discuss the role of parallel programming in inter-processor communication.