

(6 pages)

Reg. No. : .....

Code No. : 6439

Sub. Code : ZCSM 15

M.Sc.(CBCS) DEGREE EXAMINATION,  
NOVEMBER 2022.

First Semester

Computer Science

DISTRIBUTED OPERATING SYSTEM

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In distributed system, each processor has its own \_\_\_\_\_
- (a) local memory
  - (b) clock
  - (c) both local memory and clock
  - (d) none of the mentioned

2. Which technique is based on compile-time program transformation for accessing remote data in a distributed-memory parallel system
- (a) cache coherence scheme
  - (b) computation migration
  - (c) remote procedure call
  - (d) message passing
3. Logical extension of computation migration is \_\_\_\_\_
- (a) process migration (b) system migration
  - (c) thread migration (d) data migration
4. Which routing technique is used in a distributed system?
- (a) fixed routing (b) virtual routing
  - (c) dynamic routing (d) all of the mentioned
5. In distributed systems, link and site failure is detected by \_\_\_\_\_
- (a) polling
  - (b) handshaking
  - (c) token passing
  - (d) none of the mentioned

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6. The capability of a system to adapt the increased service load is called\_\_\_\_\_
- (a) scalability
  - (b) tolerance
  - (c) capacity
  - (d) none of the mentioned
7. What is not a major reason for building distribute system?
- (a) resource sharing    (b) computation
  - (c) reliability            (d) simplicity
8. The file once created cannot be changed is called \_\_\_\_\_
- (a) immutable file
  - (b) mutex file
  - (c) mutable file
  - (d) none of the mentioned
9. \_\_\_\_\_ is not possible in distributed file system.
- (a) File replication    (b) Migration
  - (c) Client interface    (d) Remote access

10. There is no need to establish and terminate a connection through open and close operation in \_\_\_\_\_.
- (a) stateless file service
  - (b) stateful file service
  - (c) both stateless and stateful file service
  - (d) none of the mentioned

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the distributed operating system and its architecture types in brief.
- Or
- (b) Explain the switching technique in brief.
12. (a) Explain the issues in IPC by message passing in brief.
- Or
- (b) Explain the group communication in brief.
13. (a) Explain the Remote Procedure Call (RPC) model in brief.
- Or
- (b) Explain the granularity in brief.





14. (a) Explain the deadlock in brief.

Or

- (b) Explain the desirable features of a good process migration mechanism in brief.

15. (a) Explain the desirable features of a good distributed file system in brief.

Or

- (b) Explain the advantages of file replication in brief.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the distributed computing system models in detail.

Or

- (b) Explain the LAN technology in detail.

17. (a) Explain the desirable features of a good message-passing system in detail.

Or

- (b) Explain the failure handling in detail.

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18. (a) Explain the implementation of RPC mechanism in detail.

Or

- (b) Explain any four consistency models in detail.

19. (a) Explain the handling deadlocks in distributed systems in detail.

Or

- (b) Explain the advantages of process migration in detail.

20. (a) Explain the file-caching schemes in detail.

Or

- (b) Explain the fault tolerance in detail.

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