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Reg. No..................................

Name.....................................

INTEGRATED M.C.A. (I.M.C.A.) DEGREE EXAMINATION

OCTOBER 2025

Fifth Semester

IMCA 503—DISTRIBUTED COMPUTING

(2019 Admissions—Supplementary/2018 Admissions—First Mercy Chance/2017 Admissions—Second Mercy Chance)

Time : Three Hours Maximum Marks : 75

Part A

Answer any **ten** *questions.*
Each question carries 3 *marks.*

1. What are the different types of distributed systems ?
2. Summarize the self-management in distributed systems.
3. Memorize the role of threads in distributed processing.
4. Show the various components of RPC.
5. Describe the structured naming with example.
6. Write a note on Lamport's logical clocks.
7. What is client-centric consistency ?
8. Explain the importance of fault tolerance.
9. Recall the service management in cloud computing.
10. What are the cloud solutions ?
11. Identify the basics of virtualization.
12. Write down the steps to layered cloud architecture development.

(10 × 3 = 30)

Turn over

Part B

Answer **all** *questions.*
Each question carries 9 *marks.*

13. (a) Compare and construct the distributed system architecture and middleware architecture.

Or

(b) Express the self-management in distributed systems.

14. (a) Differentiate between stream-oriented and message-oriented communication.

Or

(b) Outline the clock synchronization algorithms in distributed systems.

15. (a) Evaluate the basic functions of distributed file systems.

Or

(b) Discuss the design issues of process resilience.

16. (a) Enumerate the system models for distributed and cloud computing.

Or

(b) Illustrate the general requirements of cloud ecosystem.

17. (a) Conclude the implementation levels of virtualization.

Or

(b) Elucidate the need of inter-cloud resource management.

(5 × 9 = 45)