

PG (CBCS)
M.Sc. Semester-I Examination, 2022
COMPUTER SCIENCE
PAPER: COS 102

Full Marks: 40

Time: 2 Hours

Write the answer for each unit in separate sheet

M1

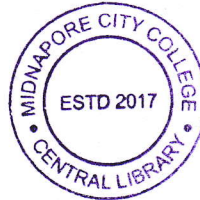
(PARALLEL COMPUTING)

GROUP-A

1. Answer any TWO from the following questions:

2×2=4

- a) Why used parallelism?
- b) Explain pipelining.
- c) What do you mean by latency hiding?
- d) Name different interconnection Network.



GROUP-B

2. Answer any TWO from the following questions:

2×4=8

- a) Discuss the difference between SIMD and MIMD.
- b) State Amdahl law with derivation.
- c) Discuss about various latency hiding technique.
- d) Explain the performance metrics of parallel computing.

4
2+2
4
4

GROUP-C

3. Answer any ONE from the following questions:

1×8=8

- a) Explain PRAM Model with its 8 components.
- b) Define the factors that limit the speed-up of parallel algorithm.

8
8

P.T.O.

(2)



M2
(DISTRIBUTED SYSTEM)

GROUP-A

1. Answer any **TWO** from the following questions: 2×2=4

- a) What is Distributed System? Give some example.
- b) What are the applications of Grid computing?
- c) What are the major components of distributed system?
- d) What is Virtualization In Cloud Computing?

GROUP-B

2. Answer any **TWO** from the following questions: 2×4=8

- a) What do you mean by Consensus, Paxos and Recovery in Clouds?
- b) What are the Characteristics of Distributed System?
- c) Describe different Types of Cloud Services.
- d) Describe different types of Virtualization.

GROUP-C

3. Answer any **ONE** from the following questions: 1×8=8

- a) Explain P2P Systems and their use in Industry System. 8
- b) What are the different Apache Spark applications? What is Leader election in distributed systems? Describe Bully and Ring Algorithm 2+2+2+2
