FACULTY OF ENGINEERING

B.E. (IT) V - Semester (AICTE) (Backlog) (New) Examination, August / September 2024

Subject: Distributed Systems (P.E-I)

Time: 3 Hours

Max. Marks: 70

Note: (i) First question is compulsory and answer any four questions from the remaining six questions. Each question carries 14 Marks.
   (ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.
   (iii) Missing data, if any, may be suitably assumed.

1. a) Differentiate between Asynchronous and Synchronous RPC (draw Diagram).

   b) Define the following types of communication.

   (i) Persistent   (ii) Transient   (iii) Asynchronous   (iv) Synchronous

   c) Define Sequential and Causal Consistency.

   d) Define (i) Read Your Writes and (ii) Writes Follow Reads..

   e) Distinguish between Remote Access and Upload/Download models of file access.

   f) List the Classification of Faults.

   g) Define Lamport's Logical Clocks, List its applications.

2. a) Describe the role of a TP (Transaction Processing) Monitor in distributed systems.

   b) Explain the centralized system architecture of distributed systems.

3. a) Describe the different architectures of Virtual Machines.

   b) Describe the different alternatives for code migration.

4. a) Explain with example the principle of Recursive name resolution.

   b) List the Physical Clock Synchronization algorithms and explain any one.

5. a) Discuss Cache-Coherence Protocols.

   b) Explain the distributed 2-Phase Commit Protocol

6. a) Describe Client side Caching in NFS.

   b) Describe the NFS security architecture.

7. a) Explain the distributed algorithm for Mutual Exclusion.

   b) Explain the different types of communication.

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