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M.C.A.

THEORY EXAMINATION (SEM–VI) 2016-17

DISTRIBUTED SYSTEMS

Time : 3 Hours *Max. Marks : 100*

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION – A

1. Explain the following: **10 x 2 = 20**

(a) Write the consequences of distributed system?

(b) Explain Network OS.

(c) Explain Distributed OS.

(d) How to achieve mutual exclusion in a distributed system?

(e) State why to give priority to old processes.

(f) Name few design issues in distributed shared memory.

(g) Give some useful requirements for distributed systems.

(h) Tabulate types of failures and descriptions.

(i) Mention the phases in two-phase commit protocol.

(j) Mention the three steps in edge-chasing algorithm in distributed deadlock.

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

(a) Explain how mutual exclusion is handled in distributed system.

(b) State the purpose of fundamental model. Explain briefly.

(c) Name all modules of file system operations and write in detail about distributed file system requirements.

(d) Describe the Byzantine problem in synchronous system?

(e) Elaborate about timestamp ordering.

(f) Illustrate the Lamports snapshot algorithm for determining the global states of distributed systems.

(g) Brief about the design and implementation issues in Remote Method Invocation.

(h) Write a note on characteristics of inter process communication.

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

3. State and explain the challenges of distributed systems.

4. Elaborate about concurrency control in transaction.

5. Discuss about distributed deadlocks.