

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.