M. Tech. –II (Computer Engineering) (2011Course) Choice Based Credit System : WINTER - 2018

SUBJECT: DISTRIBUTED SYSTEMS

Day : Friday
Date : 23/11/2018

W-2018-3359

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.
4) Assume suitable data if necessary.

SECTION – I

Q.1 What factors affect the responsiveness of an application that accesses shared data managed by a server? Describe remedies that are available and discuss their usefulness. **[10]**

OR

Explain the various challenges of distributed system.

Q.2 Discuss in detail the architecture and principles of monolithic kernel and microkernel, as well as the major differences between the both. **[10]**

OR

With a neat diagram explain the layered architecture of operating system for distributed system.

Q.3 What is cryptography? Explain DES algorithm in detail. **[10]**

OR

Describe in detail AFS architecture.

SECTION – II

Q.4 Discuss happened-before relationship in a set events occur in various processes. How happens-before relationship is used in Lamport's logical clock synchronization. **[10]**

OR

Describe the different DNS navigation schemes and comparatively analyze which method is advantageous in real time distributed networking scenario.

Q.5 What is mutual exclusion? Compare Centralized, Distributed and Token Ring algorithms of Mutual exclusion with their performance measures. **[10]**

OR

Explain how the time-stamp approach helps in overcoming the lost-update problem.

Q.6 Explain following points related to recovery for providing fault tolerance capacities: **[10]**

a) Backward recovery
b) Forward recovery
c) Sender based logging
d) Receive based logging
e) Stable storage

OR

Discuss benefits of Coda and its replication architecture with Bayou architecture.

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