

B.Tech. SEM -VII (Computer) 2014 Course (CBCS) : SUMMER - 2019

SUBJECT: DISTRIBUTED SYSTEMS

Day: Thursday
Date: 09/05/2019

S-2019-2801

Time: 02.30 PM TO 05.30 PM
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume **SUITABLE DATA** wherever necessary

Q.1 What are the major issues in designing a Distributed Systems? Explain in detail. (10)

OR

What are main issues related to the correctness of the IPC protocols of a message passing system? Describe a suitable mechanism for handling each of these issues.

Q.2 What is Stub? How are stub generated? Explain how the uses of stubs help in making an RPC mechanism transparent. (10)

OR

What are the main issues in designing a transparent RPC mechanism? Is it possible to achieve complete transparency of an RPC mechanism? If yes, explain how. If no, explain why.

Q.3 Discuss in detail any Middleware Routing Overlays. (10)

OR

Name the main component of a Distributed file System. What might be the reason for separating the various functions of a Distributed File System into these components?

Q.4 Why Election Algorithms are normally needed in a Distributed System? Explain with suitable example. (10)

OR

How do clock synchronization issues differ in Centralized and Distributed Computing System? Discuss in detail.

Q.5 Load Balancing in the strictest sense is not achievable in Distributed System. Discuss. What research issues do you think need further attention? (10)

OR

What are some of the main issues involved in designing a process migration facility for a Distributed System? List some of the potential advantages and disadvantages of process migration.

Q.6 What are the main threads and techniques for ensuring security? Explain in detail. (10)

OR

What is Fault Tolerance? Explain in detail various techniques for enabling Fault Tolerance and Availability in Distributed System.