

**B. TECH. (CBCS - 2014 COURSE) SEM - VIII (INF. TECH.) :**  
**SUMMER - 2018**

**SUBJECT: DISTRIBUTED COMPUTING**

Day : **Saturday**  
Date : **09/06/2018**

**S-2018-4691**

Time : **02.30 PM TO 05.30 PM**  
Max. Marks: 60

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**N. B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Assume suitable data if necessary.
  - 4) Draw neat and labeled diagram **WHEREVER** necessary.
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Q.1 What are routing overlays? What is the purpose of routing overlays? State (10)  
and explain the tasks of routing overlays.

**OR**

Q.1 What is Distributed Computing Environment? Explain the main components (10)  
of a Distributed Computing Environment.

Q.2 List the important issues to be considered in the design of an IPC protocol (10)  
for a message passing system. Why is synchronization a central issue in  
communication structure? How is it resolved?

**OR**

Q.2 Which are the elements involved in implementation of RPC mechanism? (10)  
Explain the implementation of RPC mechanism along with the job of each of  
these elements.

Q.3 What is address space transfer with reference to process migration? Explain (10)  
any one mechanism for the same.

**OR**

Q.3 State and explain the commonly used ways to organize the threads of a (10)  
process.

Q.4 Explain distributed algorithms for clock synchronization. (10)

**OR**

Q.4 What is logical clock? Explain the techniques of the implementation of (10)  
logical clocks.

Q.5 What are basic differences between replication and caching? Explain the (10)  
important issues in file replication.

**OR**

Q.5 Compare between stateful file server and stateless file server. What are (10)  
advantages of stateless service paradigm in crash recovery?

Q.6 What are the commonly used methods for implementing an access matrix? (10)  
Explain their relative advantages and disadvantages.

**OR**

Q.6 What is a key distribution problem? How does it differ for symmetric and (10)  
asymmetric cryptosystems?

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