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Question Paper Code : 71687

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Sixth Semester

Computer Science and Engineering

CS 6601 — DISTRIBUTED SYSTEMS

(Common to Information Technology)

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the need of openness in Distributed system?

2. Define Transparency. What are its types?

3. State the advantages of overlay networks.

4. Differentiate between RMI and RPC.

5. What are the main tasks of routing overlay?

6. How will you make use of name space and DNS?

7. Define consistent cut.

8. What are the rules to abort the nested transaction?

9. What are the sub activities involved in process migration?

10. What is the basic idea behind task assignment approach?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the design issues to be considered in designing distributed systems? Explain in detail about each of them. (8)

(ii) Discuss in detail about the trends in distributed systems. (8)

Or

(b) (i) Discuss in detail about the examples (any two) of distributed systems. (8)

(ii) Utilize World Wide Web as an example to illustrate the concept of resource sharing, client and server. (8)

12. (a) (i) Explain in detail about Middleware layers and Inter process communication. (8)

(ii) What is the purpose of external data representation and marshaling? Discuss. (8)

Or

(b) (i) What is RMI? How it is implemented? Write notes on JAVA RMI. (8)

(ii) How message queues are useful? Explain briefly. (8)

13. (a) (i) What is meant by Napster legacy? Explain in detail. (8)

(ii) Explain in detail about routing overlay employed in Ocean store storage system. (8)

Or

(b) (i) Discuss the mounting issues of remote file systems on NFS client. (8)

(ii) List the different approaches to implement the Name Caches and explain them briefly. (8)

14. (a) (i) Explain the Chandy and Lamports Snapshot algorithm for determining the global states of distributed systems. (8)

(ii) Describe the distributed mutual exclusion algorithm that uses multicast and logical clocks. (8)

Or

(b) (i) Explain detail about two phase commit protocol. (8)

(ii) Summarize in detail about CODA. (8)

15. (a) (i) Explain how process migration is implemented in heterogeneous system. (8)

(ii) Discuss the issues related to thread programming, thread lifetime and thread synchronization. (8)

Or

(b) (i) Describe in detail about the Load balancing approach. (8)

(ii) Give the techniques and methodologies for scheduling process of a distributed system. (8)

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