Code: 9A05604

1

B. Tech III Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

DISTRIBUTED SYSTEMS

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 Explain in detail different examples of a distributed system.

2 Explain the interfaces in a distributed system.

3 How the addresses of resources or objects when given names are obtained? Explain.

4 (a) Explain the implementation of FIFO ordering
(b) Explain the implementation of total ordering.

5 Explain the problems of concurrency transactions using any real time example.

6 Discuss different conditions and suitable solutions for sub transactions in nested transactions.

7 How to secure electronic transactions using secure sockets? Explain any suitable protocol.

8 (a) Define DSM. List out supporting goals. Suggest a few real time examples.
(b) Compare message passing and distributed shared memory?

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2

B. Tech III Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013

DISTRIBUTED SYSTEMS

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) What are the resources that can be shared in a distributed system?
(b) How the failure of computer systems in a distributed system affects its performance?

2 (a) What is Garbage collection? How it is achieved in a distributed system?
(b) Explain the RMI invocation semantics.

3 (a) What is the need for peer to peer services?
(b) What are the functional and non functional requirements of peer to peer systems?

4 (a) What are overlapping groups?
(b) What are the problems of agreement?

5 (a) Describe failure model for transactions.
(b) Explain the life history for transactions with example.

6 (a) Describe the procedure for creating virtual partitions with example.
(b) Briefly explain virtual partition algorithm with example.

7 Compare and contrast between symmetric and asymmetric algorithms with suitable example.

8 Discuss briefly various implementation approaches for DSM with example.

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3

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1 How multimedia services are made available in a distributed system? What are the technical challenges and how they are overcome?

2 Explain in detail the distributed object model.

3 Explain the algorithmic and architectural models behind current peer to peer systems.

4 Explain the network time protocol.

5 Explain serial equivalence and conflict operations of transactions with example.

6 (a) Sketch and explain the basic architectural model for replicated data.
(b) Why you need group communication? Explain the role of group membership services.

7 (a) Discuss the confusion and diffusion in the design of cryptographic algorithms. What are the advantages of handwritten signatures?
(b) What is authentication? Suggest supporting scenarios.

8 What are the design and implementation issues of DSM? Explain with example.

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4

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(Computer Science & Engineering)

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1 Why the World Wide Web is called a distributed system?

2 (a) What are the interfaces used in original client/server model related to RPC?
(b) What is an interface definition language?

3 (a) Explain the storage organization of ocean store objects.
(b) What are the types of identification used in ocean store?

4 Explain Cristiana's method for synchronization of clock.

5 Why you need atomic transactions? Discuss the role of recoverable objects. List out and explain supporting transaction capabilities with example.

6 Briefly discuss view-delivery and view-synchronous group communication with example.

7 What are the goals of security? List out and explain the design issues for secure systems.

8 (a) What is the format of IOR? List out and explain CORBA services.
(b) Briefly discuss the list of bind operations in CORBA naming service.

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