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14SCN22

Second Semester M.Tech. Degree Examination, June/July 2015

Distributed Computing

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Discuss various task assignment approaches in distributed system management. (10 Marks)
b. Discuss design issues in threads and also explain the user level and Kernel level approaches for thread implementation. (10 Marks)
- 2 a. Discuss the issues in implementing DSM (distributed shared memory) systems. (10 Marks)
b. What is memory consistency? List the various consistency models used in DSM systems. Discuss weak consistency models. (10 Marks)
- 3 a. How is DFS (distributed file system) different from a traditional file system? (05 Marks)
b. Highlight the desirable features of a good DFS. (05 Marks)
c. Explain the major reasons for replication. Discuss various replica creation techniques, also explain update protocols used for updating replicas. (10 Marks)
- 4 a. Explain the different types of names used in distributed systems. (06 Marks)
b. What is object location? How it is carried out in a distributed system? Explain object location using expanding ring broadcast mechanism. (07 Marks)
c. What is name cache? Discuss the issues in name cache design. (07 Marks)
- 5 a. Explain how symmetric cryptosystems work. (10 Marks)
b. Discuss the relative advantages and disadvantages of symmetric and asymmetric crypto systems. (05 Marks)
c. Differentiate active and passive attacks. Which is more harmful? (05 Marks)
- 6 a. What is a real time DS? How does it differ from a traditional real time system? Explain classification of real time systems. (08 Marks)
b. Explain real time scheduling algorithm with suitable example. (12 Marks)
- 7 a. Discuss the basic grid protocol architecture. Elaborate the functions of each layer. (06 Marks)
b. What is service oriented grid? Explain with a diagram. (05 Marks)
c. Explain cloud computing landscape. (05 Marks)
d. Discuss the future of emerging trends. (04 Marks)
- 8 Discuss the following with respect to distributed systems:
 - a. State information exchange policies in load balancing. (07 Marks)
 - b. Multiple reader/multiple writer algorithm. (07 Marks)
 - c. File caching in DFS. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

Highly confidential document