B.E.(with Credits)-Regular-Semester 2012 - Computer Science and Engineering Sem VIII
CSE8051- Elective-IV : Distributed System

P. Pages : 2

Time : Three Hours

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4824

Max. Marks : 80

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Notes : 1.   All questions carry equal marks.
         2.   Answer **five** questions.
         3.   Due credit will be given to neatness and adequate dimensions.
         4.   Assume suitable data wherever necessary.

1. a) Describe the multilayered architecture for distributed systems. **8**

   b) Define a distributed system and explain different types of transparencies that exist in distributed systems. **8**

OR

2. a) What is virtualization ? Explain examples of virtualization. **6**

   b) An RPC middleware is to be designed. What are factors that must be decided prior ? **6**

   c) How is membership of peers is managed in the chord (ring-like peer-to-peer structured) architecture ? **4**

3. a) Explain the following mutual exclusion algorithms with the problems they can face - **4**
        i)   Centralized   ii)   Decentralized
        iii) Distributed   iv)   Token ring

   b) What are the classes of block replacement strategies used in multimedia shared memory. **6**

   c) Describe Heterogeneous DSM. **6**

OR

4. a) Explain the general architecture of distributed shared memory. **8**

   b) Compare sequential consistency and release consistency of DSM. **8**

5. a) Describe architecture of distributed file system. **6**

   b) Explain Berkeley algorithm. **6**

   c) Explain naming conventions and synchronization in distributed file system. **4**

OR

6. a) What are different means of process failure detection ? **6**

b) For each of the following applications do you think at-least-once or at-most-once semantics is appropriate ? **6**
   i) Reading writing files from a file server.
   ii) Compiling a program
   iii) Remote banking

c) What is recovery ? Explain with example. **4**

7. a) What are the design parameters that make the Amoeba operating system reliable ? Explain. **8**

b) How does the run server select a processor for executing a program in the Amoeba operating system ? **8**

OR

8. a) How does the thread scheduling take place in mach operating system. **8**

b) Explain memory management in distributed operating system. **8**

9. a) What are traffic shaping algorithms in distributed multimedia systems. **6**

b) Describe characteristics of multimedia data. **6**

c) What is stream adaption ? Explain. **4**

OR

10. a) How to manage resources in distributed multimedia systems. **8**

b) What are the features of good scheduling algorithm ? Explain. **8**

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