B.E./B.Tech DEGREE EXAMINATION, APRIL / MAY 2015

Eight Semester

CS2056/CS 804/10144 CSE53 - Distributed Systems

(Common to Information Technology)

(Regulation 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL Question

PART A – (10 x 2 = 20 marks)

1. Define an array. Give an example.
2. Give example on call by reference.
3. What are the statement used for reading a file.
4. Define the need for union in C.
5. What are abstract data type?
6. What is circular linked list?
7. Give the applications of stack.
8. What is doubly ended queue?
9. Define extendible hashing.
10. Differentiate internal and external sorting.

PART B – (5 x 16 = 80 marks)

11. (a) Explain the challenges involved in building distributed systems (8)

(b) What facors affect the responsiveness of an application that accessed shared data managed by the server? Describe the remedies that are available and discuss the usefulness.(8)

Or

(b) i)List the types of local resources that are vulnerable to an attack by an untrusted program that is downloaded from a remote site and run in a local computer. Explain it. (8)

ii) Explain IPv6. (8)

12. (a) i)Explain how a forwarded observer may be used to enhance the reliability and performance of objects of interest in an event service. (8)

(ii) Explain the remote procedure call mechanism with various functional components (8)

Or

(b) i) Explain the factors that motivate the hybrid scheduling approach of the scheduler activation design. (8)

ii) Explain how shared region could be used for a process to read the data written by the kernel (8)

13. (a) i)Explain Sun NFS. (8)

ii) Compare the update semantics of UNIX when accessing local files with those of NFS and AFS. Under what circumstances might client become aware of the difference (8)

Or

1. (b) i) What security issues are liable to be relevant to a directory service such as X.500 operating within an organization.(8)

ii) Explain DNS (8)

14. (a) i) Explain snapshot algorithm with example (8)

ii) Discuss about NTP (8)

Or

(b)i) Explain Ricart and Agarwala's algorithm (8)

ii) Show that byzantine agreement can be reached for three generals, with one of them faulty, if the generals digitally sign their message (8)

15. (a) i) Discuss about design and implementation issues of DSM (8)

ii) Describe sequential consistency DSM. (8)

Or

(b) Describe CORBA RMI and its services (16)