K16P 0100

Reg. No. : ....

Name : ....

I Semester M.C.A. Degree (Reg./Sup./Imp.) Examination, February 2016
(2014 Admn. Onwards)
MCA1C03 : OPERATING SYSTEMS

Time : 3 Hours

Max. Marks : 80

Instructions : Section – A : Answer any ten questions. Each question
carries three marks.
Section – B : Answer all questions. Each question
carries ten marks.

SECTION – A

Answer any ten questions. Each question carries three marks. (10×3=30)

1. What are the different types of distributed operating system ?

2. Compare and contrast real time and time sharing operating system.

3. What are the responsible activities of OS connection with disk management ?

4. Define system calls and corresponding functions.

5. What are the differences between user-level threads and Kernel-supported threads ?

6. Compare and contrast preemptive and nonpreemptive scheduling.

7. What the significant features of internal and external fragmentation ?

8. How the logical address is mapped to the address in the physical memory in case of paged memory management ?

9. What are the merits of linked file allocation method ?

10. Define super block and semaphore.

11. List out the advantages of a DFS compared to normal file system.

12. What are the significant features of the NFS architecture ?

SECTION – B

Answer all questions. **Each** question carries **ten** marks. (5×10=50)

13. a) i) What are the significant features of building distributed system ? 5
    ii) Compare and contrast batch processing system distributed processing systems. 5
    OR
    b) i) With neat diagram explain briefly working structure of I/O system. 5
    ii) List out various system components explain any two of them briefly. 5

14. a) i) Discuss the importance of various operations on process. 5
    ii) What are the principles of interprocess communication ? 5
    OR
    b) i) Describe the criteria used for CPW scheduling algorithms. 5
    ii) Define critical section problem. What are the essential requirements for a better solution to the critical section problem ? 5

15. a) i) With neat diagram explain the multisteps processing of a user program. 5
    ii) Explain the structure of the page table. 5
    OR
    b) i) Discuss the importance of First-fit and Worst-fit allocation algorithm. 5
    ii) List out the various page replacement algorithm. Explain any one of them briefly. 5

16. a) i) Explain the process of steps in a DMA transfer. 5
    ii) What are the applications of I/O interface ? 5
    OR
    b) i) Discuss with suitable example importance of SCAN scheduling. 5
    ii) Describe the properties of tertiary storage devices. 5

17. a) i) Explain with examples Naming and Name resolution of the systems in the network. 5
    ii) Compare and contrast caching and remote service in distributed file structure. 5
    OR
    b) i) Discuss the concept of domain structure briefly. 5
    ii) Describe any two approaches for the authentication problem. 5

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