

67142

M.C.A. 3rd Semester Current Scheme
(With New Notes) Maximum Marks Scheme 80
Examination, December-2015

OPERATING SYSTEM

Paper-MCA-302

Time allowed : 3 hours] [Maximum marks : 80

Note : Question No. 1 is compulsory. Attempt one question each from Unit-II to Unit-V.

Unit-I

1. (a) Define spooling. 8×2
(b) Define Buffering.
(c) What is Shell ? What is its use ?
(d) What do you mean by relocation and dynamic loading ?
(e) Why dispatcher is necessary in scheduling ?
(f) Describe the synchronization hardware ?
(g) What do you mean by Critical Region ?
(h) Give two use of Contiguous Allocation.

Unit-II

2. (a) What is operating system ? Explain the various services of operating system. 8

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- (b) What do you understand by File Structure ? Explain file allocation. 8
- (a) What is Directory Management ? Why is it important ? How is it implemented ? 8
- (b) Describe the methods to access a file. How does Directory Structure help in accessing a file ? 8

Unit-V

- (a) Explain the Banker's algorithm for deadlock avoidance with an example. 8
- (b) Explain the concept of Shell. What are its types ? What editors are available for its programming ? 8
- (a) What are methods for Deadlock detection and recovery from deadlock ? 8
- (b) Explain the components of memory management in UNIX or Linux system. 8

- (b) What are real time system and embedded system ? Explain. 8

- (a) Describe the architectural support required for multiprogramming. Explain Real Time Scheduling with help of block diagram. 8

- (b) What do you understand by Cooperating Processes ? Write uses and advantages of threads over processes. 8

Unit-III

- (a) Explain the concept of Segmentation and Memory Swapping with reference to Memory Management. 8

- (b) What is Demand Paging ? How is it implemented ? Explain its Performance. 8

5. Write short notes on (a) Contiguous Memory Allocation (b) Segmentation with paging (c) Page Replacement. (d) Thrashing. $4 \times 4 = 16$

Unit-IV

- (a) How do we protect files ? What is the use of Attributes of files ? 8