

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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67142

- (b) What are real time system and embedded system ? Explain. 8
3. (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

4. (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

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

67142

67142

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67142

- (b) What do you understand by File Structure ? Explain file allocation. 8
7. (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

8. (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
9. (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