

END TERM EXAMINATION

SECOND SEMESTER [MCA] MAY-JUNE 2016

Paper Code: MCA106

Subject: Operating Systems

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q no.1 which is compulsory.
Select one question from each unit.

- Q1 (a) Define real-time system. (2.5x10=25)
(b) Explain Multi Programming.
(c) What are the Synchronization Basic Concepts?
(d) Describe process Scheduling.
(e) What is the security criteria for Scheduling?
(f) Write about contiguous allocation.
(g) Discuss the Device management Technique.
(h) What is Disk Reliability?
(i) What is shared Devices?
(j) Explain File system interface.

UNIT-I

- Q2 (a) What is the concept of process scheduling? Differentiate with multiple Process scheduling. (5)
(b) Describe the following:- (7.5)
(i) Real Time scheduling (ii) Algorithm Evaluation (iii) Threads

- Q3 (a) Differentiate between Time-Sharing Systems and Real-Time Systems? (5)
(b) View about the Segmentation with Paging. (4)
(c) Explain operating system components. (3.5)

UNIT-II

- Q4 (a) Describe the role and importance of Critical Regions? (6.5)
(b) What is deadlock avoidance? Explain the recovery process from Deadlock? (6)

- Q5 Write the short notes on the following:- (5x2.5=12.5)
(a) Message Passing
(b) Critical Section Problem
(c) Performance of Demand Paging
(d) Allocation of Frames
(e) Monitors

UNIT-III

- Q6 (a) What are the Techniques for Device managements? How to share the Device? (6.5)
(b) What is the Deadlock Characterization? Suggest two methods for Deadlock Handling. (6)

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Q7 Explain in brief the following:-

(5x2.5=12.5)

- (a) multiple Path,
- (b) Block Multiplexing,
- (c) Semaphores,
- (d) Virtual Devices,
- (e) Disk Scheduling

UNIT-IV

Q8 (a) Explain Access Control Verification? Define the Access Methods. (6.5)
(b) Differentiate the Logical File System with Physical File System? (6)

Q9 Write, in brief about the following:-

(5x2.5=12.5)

- (a) Free-Space Management,
- (b) Access matrix,
- (c) Cryptography,
- (d) Goals of Protection,
- (e) System Threats

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