

MSC-CS-10

December - Examination 2015

MSC-CS (F) Examination**Operating System****Paper - MSC-CS-10****Time : 3 Hours]****[Max. Marks :- 100**

Section - A

10 x 2 = 20

(Very Short Answer Questions)

Note: Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries 2 marks.

- 1) (i) What is the Kernel ?
- (ii) What is the advantage of Multiprogramming ?
- (iii) What are the different types of multiprocessing ?
- (iv) What are the various OS components ?
- (v) What is process control block ?
- (vi) What is a thread ?
- (vii) What are the requirements that a solution to the critical section problem must satisfy ?

- (viii) What is a resource-allocation graph ?
- (ix) What are a safe state and an unsafe state ?
- (x) What do you mean by first fit ?

Section - B

4 x 10 = 40

(Short Answer Questions)

Note: Answer any **four** questions. Each answer should not exceed 200 words. Each question carries 10 marks.

- 2) View the operating system as a resource manager.
- 3) What are the necessary conditions for a deadlock situation to arise ?
- 4) Discuss the deadlocks in terms of a system resource allocation graphs.
- 5) Describe single contiguous allocation memory management system.
- 6) Explain Dynamic memory allocation strategy.
- 7) Discuss any two page replacement algorithms.
- 8) Explain the critical section problem in process synchronization.
- 9) Bring out the advantages and disadvantages of contiguous allocation over non continuous allocation.

Section - C

2 x 20 = 40

(Long Answer Questions)

Note: Answer any **two** questions. Each answer should not exceed 500 words. Each carries 20 marks.

- 10) Discuss on I/O scheduling, buffering, caching and error handling.
 - 11) Explain the segmentation technique with the necessary diagrams.
 - 12) Discuss the Banker's algorithm for deadlock avoidance in detail.
 - 13) Explain type demand paging scheme with suitable example.
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