

Code: 9F00204

MCA II Semester Regular & Supplementary Examinations May 2016

OPERATING SYSTEMS

(For students admitted in 2010, 2011, 2012, 2013, 2014 & 2015 only)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Define the essential properties of the following types of operating systems:
(i) Batch. (ii) Interactive. (iii) Multiprogramming.
(b) What are system calls? List out systems call types.
- 2 (a) Describe about scheduling criteria for comparing CPU scheduling algorithms.
(b) Describe:
(i) Shortest job first scheduling.
(ii) Priority scheduling.
- 3 (a) Describe in detail about mutual exclusion implementing with semaphores.
(b) Describe about classical problems of synchronization.
- 4 (a) Describe the working of paging.
(b) Consider the following reference string:
1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6
How many page faults are there for FIFO and LRU algorithms with 4 frames?
- 5 (a) Explain file access methods.
(b) Explain various directory structures.
- 6 (a) Explain about FCFS disk-scheduling algorithm.
(b) Explain about swap-space management.
- 7 (a) Explain the conditions for a deadlock to occur with example.
(b) Discuss deadlock prevention mechanisms.
- 8 (a) Explain about Access matrix Concept in the protection.
(b) Explain design principles of security.
