Code: 9F00204

## MCA II Semester Regular & Supplementary Examinations August 2014
## OPERATING SYSTEMS
(For students admitted in 2009, 2010, 2011, 2012 & 2013 only)

Time: 3 hours                                                                                      Max. Marks: 60

Answer any FIVE questions
All questions carry equal marks
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1.  (a)  Define system calls. Explain about different types of system calls provided by an operating system.
    (b)  Discuss how the operating system components are interconnected and modeled into a kernel?

2.  (a)  Describe shortest job first scheduling algorithm.
    (b)  Explain the scheduling criteria.

3.  (a)  Explain the critical section problem and describe the Peterson's solution for the same.
    (b)  Explain the Readers-Writers synchronization problem and describe the solution using semaphores.

4.  (a)  Describe the structure of the page table.
    (b)  Discuss how FIFO page replacement algorithms can be implemented on the following reference string when numbers of frames is 4. Also calculate the number of page faults.
         7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1.

5.  (a)  Discuss the operating structure of a file-system implementation.
    (b)  Explain different operations and file attributes.

6.       Describe about scheduling algorithms.

7.  (a)  Describe the two methods for recovering from deadlocks.
    (b)  What are the methods used for handling deadlocks? And explain.

8.       Describe the details of cryptography and how to use in computer security with one example?

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