JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations, June - 2014
OPERATING SYSTEMS
(Common to ECE, ETM)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1.a) Write a short note on Virtual Machines and System calls.
 b) Explain briefly about special purpose systems?

2.a) Differentiate between preemptive and non preemptive scheduling.
 b) Briefly discuss about Thread Scheduling in Memory Management.

3.a) State and explain Critical section problem.
 b) What are the classic problems of synchronization?

4.a) Explain briefly about the memory management scheme of paging along with its merits and demerits.
 b) Consider the following page-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 occur for the LRU, FIFO and optimal page replacement algorithms, assuming 3, 4, 5 frames and initially all frames are empty?

5.a) Explain Dijkstra's Algorithm for deadlock avoidance when multiple instances of each type of resources are present.
 b) What are the methods for handling Deadlocks?

6.a) Write a short note on Free Space Management.
 b) Explain different File accessing methods in file system.

7.a) Explain about the Tertiary storage structure.
 b) Write a short note on Application I/O interface.

8. Explain the following terms:
   a) Threats
   b) Intruders
   c) Viruses.

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