JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech III Year I Semester Examinations, February/March - 2016
OPERATING SYSTEMS
(Common to CSE, IT)

Time: 3 hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

Part- A

                                                     (25 Marks)

1.a) What is the advantage of Multiprogramming? [2]
  b) What do you mean by system calls? [3]
  c) What is Context Switch? [2]
  d) Define Multithreading. [3]
  e) What is demand paging? [2]
  f) Difference between internal and external fragmentation. [3]
  g) Explain swap space management. [2]
  h) What is File sharing? [3]
  i) Define deadlock avoidance. [2]
  j) What are a safe state and an unsafe state? [3]

Part-B

                                                     (50 Marks)

2. Discuss the features of the following Operating Systems.
    a) Distributed Systems
    b) Real Time Systems. [5+5]

OR

3.a) Write about operating system functions.
  b) Discuss the virtual machines with examples. [5+5]

4. Explain:
    a) Multilevel Q scheduling
    b) Multilevel feedback scheduling
    c) Real time scheduling. [3+3+4]

OR

5. Explain in detail about semaphores and monitors. [10]

6. Explain in detail about segmentation with paging. [10]

OR

7. Describe the following allocation algorithms:
    a) First fit   b) Best fit   c) Worst fit [3+4+3]

8. Explain in detail about directory structure. [10]

OR

9. Explain in detail about protection. [10]

10. Explain in detail about banker's algorithm with example. [10]

OR

11.a) What is access matrix? What are various methods to implement it.
   b) Explain capability based systems. [5+5]

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