



Code No: 823AA

R15**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, January – 2018****OPERATING SYSTEMS****Time: 3hrs****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**5 × 5 Marks = 25**

- 1.a) What are the different types of System Calls. [5]
- b) Discuss about the activities that happen during context switching? [5]
- c) What is thrashing? [5]
- d) Explain about swap space management. [5]
- e) Discuss about access control. [5]

PART - B**5 × 10 Marks = 50**

2. What is the need of operating system? Explain its functionalities. [10]

OR

3. Explain about operating system design and implementation. [10]

4. What is Critical Section Problem? Discuss about Peterson's solution. [10]

OR

5. What is Process? Explain about process control block. [10]

6. Explain first fit, worst fit and best fit allocation algorithms with examples. [10]

OR

7. Explain about MFT and MVT. [10]

8. What is a Directory? Write short note on Directory implementation. [10]

OR

9. Suppose the head of a moving head disk with 200 tracks, numbered 0 to 199, is currently serving a request at track 123 and has just finished a request at track 125. If the queue of Requests is kept in FIFO order: 126, 17, 91, 107, 194, 150, 102, 105, 130, 12. What is the total head movement to satisfy these requests for the following disk scheduling algorithms? [10]

(a) FCFS b) SSTF c) SCAN

10. Explain about capability based system. [10]

OR

11. Write and explain deadlock avoidance algorithm. [10]

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