

Code No: 135CV

R16**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, May/June - 2019****OPERATING SYSTEMS****(Common to CE, EEE, ME, ECE)****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) List the objectives of operating system. [2]
- b) What are the functions of memory management? [3]
- c) What is the difference between a process and a thread? [2]
- d) What is the importance of process synchronization? [3]
- e) What are the disadvantages of virtual memory? [2]
- f) What is meant by thrashing? [3]
- g) Define file. [2]
- h) List down the operations that may be performed on file. [3]
- i) What is mean by mutual exclusion? [2]
- j) What is starvation? [3]

PART-B**(50 Marks)**

- 2.a) What are the services provided by operating system? Explain. [5+5]
 - b) Explain in detail about process management. [5+5]
- OR**
- 3.a) Discuss in detail about computer system architecture. [5+5]
 - b) What are the goals of protection in operating system? Differentiate between protection and security. [5+5]
- 4.a) What is critical section problem in operating system? Explain with an example. [5+5]
 - b) Write short notes on synchronization in linux and windows. [5+5]
- OR**
- 5.a) What is process scheduling? Discuss about round-robin scheduling. [5+5]
 - b) What is semaphore? How does it work? Explain. [5+5]
- 6.a) Discuss in detail about IA-32 segmentation. [5+5]
 - b) Differentiate between paging and segmentation. [5+5]
- OR**
- 7.a) Discuss in detail about least recently used page replacement algorithm with example. [5+5]
 - b) Write short notes on page table structure. [5+5]

- 8.a) What are the different methods of accessing a file?
b) Discuss in detail about the file protection mechanism. [5+5]

OR

- 9.a) Explain swap space management.
b) Discuss briefly about disk structure. [5+5]

- 10.a) Explain banker's algorithm.
b) Discuss in detail about resource-allocation graph. [5+5]

OR

- 11.a) Explain about principles of protection.
b) What are the various schemes for implementation of access matrix? [5+5]

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