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.
b) Explain in detail about process management. [5+5]

OR

3.a) Discuss in detail about computer system architecture.
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.
b) Write short notes on synchronization in linux and windows. [5+5]

OR

5.a) What is process scheduling? Discuss about round-robbin scheduling.
b) What is semaphore? How does it work? Explain. [5+5]

6.a) Discuss in detail about IA-32 segmentation.
b) Differentiate between paging and segmentation. [5+5]

OR

7.a) Discuss in detail about least recently used page replacement algorithm with example.
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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