Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND SEMESTER MCA (REGULAR) DEGREE EXAMINATION(R&S), MAY 2019
Course Code: RLMCA106
Course Name: OPERATING SYSTEMS
Max. Marks: 60   Duration: 3 Hours

PART A
Answer all questions, each carries3 marks.
Marks

1	Distinguish between processes and threads.	(3)
2	Explain the process states in detail.	(3)
3	Explain Inter process communication.	(3)
4	Distinguish Internal and External Fragmentation.	(3)
5	Explain the characteristics of dead locks.	(3)
6	What is Demand paging.	(3)
7	Explain the scheme for frame allocation.	(3)
8	Explain the file structure.	(3)

PART B
Answer any one question from each module. Each question carries 6 marks.

Module I

9	Explain the different services provided by operating system.	(6)

OR

10	Distinguish between System calls and System Programs.	(6)

Module II

11	Explain the various scheduling criteria.	(6)

OR

12	Explain Priority scheduling with the following example and calculate average waiting time and turn around time.	(6)

Process   Burst time   Priority

P1	3	2
P2	6	4
P3	4	1
P4	2	3

Assume that all processes have arrived at the same instant and that "1" is the highest priority.

Module III

13   What are semaphores? Discuss its implementation.   (6)

OR

14   Define critical section problem. Discuss the three requirements that a solution to the critical section problem must satisfy.   (6)

Module IV

15   Explain Deadlock avoidance scheme using resource allocation graph.   (6)

OR

16   Describe Segmentation in memory management and also explain the segmentation hardware.   (6)

Module V

17   Explain the basic concept of page replacement. Describe Least Recently Used Page replacement with an example.   (6)

OR

18   Explain any two Disk Scheduling algorithm.   (6)

Module VI

19   Explain how protection is implemented in file systems.   (6)

OR

20   Explain Contiguous and Linked file allocation methods.   (6)

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