Roll No ....

MCADD-401
M.C.A. (Integrated), IV Semester
Examination, November 2019
Operating Systems

Time : Three Hours

Maximum Marks : 70

Note :   i)   Attempt any five questions.

ii)   All questions carry equal marks.

1.   a)   Compare Monolithic and Layered operating system.   7

b)   Describe features of Real time, Multi tasking and Multi threading operating system.   7

2.   a)   What are the different views of an operating system? Explain each one of them.   7

b)   Describe Process management services of operating system in detail.   7

3.   a)   Write and describe the following scheduling algorithms with examples.   7

i)   Multilevel feedback queue

ii)   Highest response ratio next

b)   Explain swapping with the help of suitable example.   7

4.   a)   Describe fragmentation and its types. Also write the technique to minimize fragmentation.   7

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b) Consider the following page reference string: 7

1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9.

How many page faults would occur for the following replacement algorithms assuming five frames being made available

i) FIFO

ii) LRV

5. a) Describe Segmented paging scheme with its hardware implementation. 7

b) Explain Belady's anomaly 7

6. a) Define semaphores. Write solution for bound and buffer producer/ consumer problem using semaphores. 7

b) What is Deadlock, Explain methods for deadlock handling? 7

7. a) Discuss various file allocation methods. 7

b) Disk request come in order of cylinders- 7
10, 22, 32, 2, 40, 6, 38
A seek takes 6 msec/ cylinder move. What would be the seek time needed for FCFS, SSTF and LOOK algorithm presently the arm is at 20th cylinder.

8. a) Compare Windows and Linux operating systems. 7

b) Write brief note on following: 7

i) RAM disk

ii) Clocks

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