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17EC553

Fifth Semester B.E. Degree Examination, July/August 2022
Operating System

Time: 3 hrs.

Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a.   Define Operating System. Explain the goals of a Operating System. **(10 Marks)**
    b.   Explain partition based on pool based resource Allocation Strategies. **(10 Marks)**

OR

2   a.   Explain the different classes of Operating System. **(10 Marks)**
    b.   In Multi programming system I/O bound programs should be given higher priority then Cpu bound program. Justify this with a timing diagram. **(10 Marks)**

Module-2

3   a.   Define Process. Explain the OS view of process. **(10 Marks)**
    b.   Explain Fundament state transition of process and compare processes with thread. **(10 Marks)**

OR

4   a.   For the given set of process, perform the FCFS and SRN non – preemptive scheduling.

Processes	P_1	P_2	P_3	P_4	P_5
Arrival time	0	2	3	5	9
Service time	3	3	2	5	3

(10 Marks)
    b.   Explain Long, Medium and Short term scheduling in Time Sharing System. **(10 Marks)**

Module-3

5   a.   Compare Contiguous and Non – Contiguous Memory Allocation techniques. **(10 Marks)**
    b.   Explain i) Paging   ii) Segmentation. **(10 Marks)**

OR

6   a.   Explain Virtual Memory Management with a neat diagram. **(10 Marks)**
    b.   Explain FIFO and LRU page replacement policies. **(10 Marks)**

Module-4

7   a.   Explain File System and IOCS. **(10 Marks)**
    b.   Explain Direct Access and Index Sequential File Organization. **(10 Marks)**

OR

8   a.   Explain Allocation of Disk Space. **(10 Marks)**
    b.   Explain Implementation of File access to open a File. **(10 Marks)**

Module-5

9   a.   Define Message passing. Explain how to implement Message Passing. **(10 Marks)**
    b.   Explain Mail boxes with its advantages. **(10 Marks)**

OR

10   a.   Explain Resource State Modeling. **(10 Marks)**
     b.   Explain Deadlock Defection Algorithm. **(10 Marks)**

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