# CBCS SCHEME

USN | | | | | | | | | |                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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