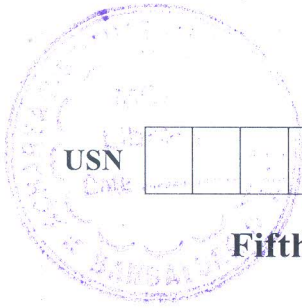


AI09WF24

# CBCS SCHEME



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15EC553

**Fifth Semester B.E. Degree Examination, Jan./Feb. 2023**

## Operating Systems

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Explain Goals of an operating system. (08 Marks)
- b. Explain types of computational structures with OS responsibilities. (08 Marks)

OR

- 2 a. Explain Memory management approach in multi programming systems. (08 Marks)
- b. Explain primary advantage in distributed operating systems. (08 Marks)

### Module-2

- 3 a. Define term process state and state transitions. Explain fundamental state transitions for process with a neat diagram. (08 Marks)
- b. Explain in detail PCB. (08 Marks)

OR

- 4 a. What are threads? Explain reasons for high process Switching overhead and Advantage of threads. (08 Marks)
- b. Explain long, medium and short – term scheduling in a time sharing system with a neat diagram. (08 Marks)

### Module-3

- 5 a. Explain features of comparison between contiguous and non-contiguous memory allocation. (08 Marks)
- b. Explain Paging and Segmentation. (08 Marks)

OR

- 6 a. Explain Demand paging. (08 Marks)
- b. Explain the functions performed by the VM handler. (08 Marks)

### Module-4

- 7 a. Explain IOCs and file system. (08 Marks)
- b. Explain file protection. (08 Marks)

OR

- 8 a. Explain file system actions involved in file processing in brief. (08 Marks)
- b. Explain Linked allocation and Indexed allocation. (08 Marks)

### Module-5

- 9 a. Define message passing. Explain how to implement message passing. (08 Marks)
- b. Explain Mailboxes with its advantages. (08 Marks)

OR

- 10 a. Explain Deadlocks in resource allocation. (08 Marks)
- b. Explain Deadlock prevention methods. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8=50, will be treated as malpractice.