



III B.Tech I Sem Regular End Examination, December 2022

Operating Systems
(CSE/IT/CSI/CSC)
Time: 3 Hours.**Max. Marks: 70**

Note: 1. Question paper consists: Part-A and Part-B.

2. In Part - A, answer all questions which carries 20 marks.

3. In Part - B, answer any one question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

PART- A**(10*2 Marks = 20 Marks)**

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|-------|--|----|-----|-----|
| 1. a) | What is system call? Write its purpose. | 2M | C01 | BL1 |
| b) | Distinguish between interrupt Vs trap | 2M | C01 | BL2 |
| c) | Define thread. | 2M | C02 | BL1 |
| d) | Determine the states of process. | 2M | C02 | BL3 |
| e) | What do you meant by dead lock? | 2M | C03 | BL1 |
| f) | State the meaning of safe state. | 2M | C03 | BL2 |
| g) | What is thrashing? | 2M | C04 | BL1 |
| h) | List out contiguous memory allocation schemes. | 2M | C04 | BL2 |
| i) | Explain advantages of two level directory structure. | 2M | C05 | BL4 |
| j) | Give the information associated with opening a file. | 2M | C05 | BL2 |

PART- B**(10*5 Marks = 50 Marks)**

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|---|----|---|----|-----|-----|
| 2 | a) | Explain the operations of operating systems. | 5M | C01 | BL4 |
| | b) | Describe system calls related to memory management. | 5M | C01 | BL2 |

OR

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|---|----|---|----|-----|-----|
| 3 | a) | Compare different operating system architectures. | 5M | C01 | BL2 |
| | b) | Explain multi processor systems in detail. | 5M | C01 | BL4 |

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|---|----|---|----|-----|-----|
| 4 | a) | What is Process Control Block and explain its attributes. | 5M | C02 | BL1 |
| | b) | Develop Round Robin CPU Scheduling algorithm. | 5M | C02 | BL6 |

OR

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|---|----|---|----|-----|-----|
| 5 | a) | Distinguish between User Vs Kernel Threads. | 5M | C02 | BL2 |
| | b) | Describe CPU scheduling Criteria. | 5M | C02 | BL2 |

- 6 a) Explain dead lock prevention techniques. 5M C03 BL4
b) Explain various recovery techniques from deadlock. 5M C03 BL4

OR

- 7 a) Define monitor and explain in detail. 5M C03 BL1
b) Identify the solution for readers and writers problem using monitor. 5M C03 BL3

- 8 a) Explain about swapping mechanism in detail. 5M C04 BL4
b) Discuss basic mechanism of segmentation. 5M C04 BL2

OR

- 9 a) Explain the structure of page table. 5M C04 BL4
b) State LRU page replacement algorithm and illustrate with an example. 5M C04 BL1

- 10 a) Describe File allocation methods. 5M C05 BL2
b) Explain Directed acyclic graph directory structure. 5M C05 BL4

OR

- 11 a) Discuss any two file space management techniques. 5M C05 BL2
b) Explain the attributes of file control block. 5M C05 BL4

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CO - Course Outcome

BL - Blooms Taxonomy Levels