**Reg. No:**

## SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
### (AUTONOMOUS)
**B. Tech II Year I Semester Supplementary Examinations November-2022**
### OPERATING SYSTEMS
(Common to CSE, CIC & CSM)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

### UNIT-I

| | | | | |
|---|---|---|---|---|
| 1 | a | Distinguish between Multitasking and Multiprogramming. | L4 | 6M |
| | b | Discuss the few of the services provided by an operating system. | L6 | 6M |

**OR**

| | | | |
|---|---|---|---|
| 2 | Write a short note on the following: <br> i) Real Time Systems <br> ii) Distributed Systems <br> iii) Simple batch systems | L3 | 12M |

### UNIT-II

| | | | | |
|---|---|---|---|---|
| 3 | a | Difference between thread and process. | L2 | 6M |
| | b | Discuss multithreading models with neat diagrams. | L6 | 6M |

**OR**

| | | | |
|---|---|---|---|
| 4 | Build SJF ,Priority CPU Scheduling algorithms for given Problem: | L3 | 12M |

| Process | P1 | P2 | P3 | P4 |
|---|---|---|---|---|
| Process Time | 8 | 4 | 9 | 5 |
| Priority | 3 | 2 | 4 | 1 |

### UNIT-III

| | | | |
|---|---|---|---|
| 5 | What is Monitor? Illustrate Reader's & Writer's problem using semaphore. | L2 | 12M |

**OR**

| | | | |
|---|---|---|---|
| 6 | Write about Deadlock Prevention Methods. | L3 | 12M |

### UNIT-IV

| | | | |
|---|---|---|---|
| 7 | List the different Disk scheduling algorithms with their comparisons. | L4 | 12M |

**OR**

| | | | |
|---|---|---|---|
| 8 | Consider the following reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. Assume there are three frames. Apply LRU replacement algorithm to the reference sting above and find out how many page faults are produced. Illustrate the LRU page replacement algorithm in detail and also two feasible implementations of the LRU algorithm. | L5 | 12M |

### UNIT-V

| | | | | |
|---|---|---|---|---|
| 9 | a | Explain about Grouping Free space management technique. | L6 | 6M |
| | b | How directory can be Implemented using linear list. | L1 | 6M |

**OR**

| | | | | |
|---|---|---|---|---|
| 10 | a | Illustrate protection mechanisms. | L2 | 6M |
| | b | Write a short note on Threats | L3 | 6M |

*** END ***