Q.P. Code: 20EC4104 **R20**

**Reg. No:** | | | | | | | | | | |

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**

(AUTONOMOUS)

**M.Tech I Year II Semester Regular Examinations November-2021**

**REAL TIME OPERATING SYSTEM**

(VLSI)

Time: 3 hours Max. Marks: 60

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

**UNIT-I**

| | | | | |
|---|---|---|---|---|
| 1 | **a** | What is the need for real time system? Explain with examples. | **L2** | **6M** |
| | **b** | What are the specific requirements in real time system? | **L2** | **6M** |
| | | **OR** | | |
| 2 | | Write a short note about i) Time services ii) Scheduling Mechanisms | **L1** | **12M** |

**UNIT-II**

| | | | | |
|---|---|---|---|---|
| 3 | **a** | Explain the salient features of Semaphore. | **L1** | **7M** |
| | **b** | Write in brief about that Message Queues. | **L1** | **5M** |
| | | **OR** | | |
| 4 | | Illustrate three examples for specifying hard time constraints. | **L2** | **12M** |

**UNIT-III**

| | | | | |
|---|---|---|---|---|
| 5 | **a** | What are the Data types used in real time systems? | **L3** | **6M** |
| | **b** | With a neat sketch, explain periodic task model of real time systems. | **L1** | **6M** |
| | | **OR** | | |
| 6 | **a** | What is RTOS? Give one practical example where RTOS is used? | **L1** | **7M** |
| | **b** | Briefly describe the Hard real time systems. | **L2** | **5M** |

**UNIT-IV**

| | | | | |
|---|---|---|---|---|
| 7 | **a** | How effective release times and deadlines are useful in real timescheduling? | **L2** | **6M** |
| | **b** | Write a short note on Clock driven, weighted round robin and priority driven. | **L1** | **6M** |
| | | **OR** | | |
| 8 | **a** | Define task and explain with diagram all the five states of a task. | **L1** | **4M** |
| | **b** | Briefly explain priority driven approach and weighted round robinapproach. | **L2** | **8M** |

**UNIT-V**

| | | | | |
|---|---|---|---|---|
| 9 | **a** | Compare Process, Scheduling and Interrupt Managements in RT Linux. | **L3** | **6M** |
| | **b** | With a neat block diagram explain process management in RT Linux. | **L2** | **6M** |
| | | **OR** | | |
| 10 | **a** | Explain the task Priority function 3 options on spawning. | **L2** | **4M** |
| | **b** | Describe memory related functions of MUCOS. | **L3** | **8M** |

*** END ***