MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act.1956

MLRS

IV B.Tech I Sem Regular End Examination, Nov/Dec 2022
Real Time Systems (PE-V)
(CSE/IT)

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)

1.	a)	What is unix and what are the file permissions of unix?	2M	CO1	BL1
	b)	What is the difference between fork() and vfork() ?	2M	CO1	BL1
	c)	Define tasks in RTOS and explain different states of a task.	2M	CO2	BL1
	d)	What is concurrency and its need?	2M	CO2	BL1
	e)	What are the I/O functions?	2M	CO3	BL1
	f)	Explain briefly about event registers	2M	CO3	BL4
	g)	What happens when a timer overflows?	2M	CO4	BL1
	h)	Discuss about Interrupts vs exception	2M	CO4	BL2
	i)	What is RTlinux and its functions?	2M	CO5	BL1
	j)	Write about the pros and cons of tinyOS	2M	CO5	BL1

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

2	a)	Explain the system structure of unix operating system.	5M	CO1	BL4
	b)	What is a process? What are the various operations that are performed on a process?	5M	CO1	BL1

OR

3	a)	Explain briefly about various file operations..	5M	CO1	BL4
	b)	Explain exit(), wait(), waitpid() and exec().	5M	CO1	BL4

4	a)	What is a semaphore? How it helps in achieving synchronization?	5M	CO2	BL1
	b)	Explain about hard and soft real time systems	5M	CO2	BL4

OR

5	a)	What are the types of operating systems? Explain briefly about them.	5M	CO2	BL4
	b)	Explain briefly about RTOS inter-task messaging and synchronization.	5M	CO2	BL4

6	a)	Explain about pipe states and pipe operations.	5M	CO3	BL4
	b)	Describe the working of signals	5M	CO3	BL2

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7	a)	Elaborate port-mapped I/O.	5M	CO3	BL5
	b)	Explain about TCP/IP protocol stack and file system component.	5M	CO3	BL4

8	a)	What are spurious interrupts? How to handle them and mention its advantages.	5M	CO4	BL1
	b)	Explain about soft timer, its design and applications	5M	CO4	BL4

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9	a)	Write about exceptions and its processing.	5M	CO4	BL1
	b)	Explain briefly about ISR.	5M	CO4	BL4

10	a)	Write about MicroC/os-II.	5M	CO5	BL1
	b)	Explain the implementation of RTLINUX	5M	CO5	BL4

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11	a)	Explain briefly about embedded linux.	5M	CO5	BL4
	b)	Write about tinyOS and its implementation	5M	CO5	BL1

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CO-Course Outcome   **BL - Blooms Taxonomy Levels**