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10EC842

## Eighth Semester B.E. Degree Examination, Dec.2016/Jan.2017 **Real Time Operating Systems**

Max. Marks:100 Time: 3 hrs.

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

		PART - A	
1	a.	Write a brief history of real – Time systems.	(07 Marks)
•	b.	Define real-time service and explain real-time service time line with hardware	
		betwee four time dervice and explain roal time dervice time me was not ware	(07 Marks)
	c.	List the POSIX group standards related to real-time systems.	(06 Marks)
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2	a.	Explain the common resources which are used in real-time embedded system.	(07 Marks)
	b.	With a relevant figure explain hard real time service utility and soft real-time u	
		Faulais assessmentias Good saisaite askadalina salias	(08 Marks)
	c.	Explain preemptive fixed priority scheduling policy.	(05 Marks)
3	a.	Explain necessary and sufficient (N and S) feasibility for processing in RTOS.	(06 Marks)
	b.	Explain dynamic priority policies.	(06 Marks)
	c.	Explain rate monotonic least upper bound (RMLUB).	(08 Marks)
4	a.	Explain intermediate input/output.	(08 Marks)
	b.	Describe werst case execution time in an input/output resources.	
	c.	Explain the concept of shared memory.	(06 Marks) (06 Marks)
		PART – B	
5	a.	Describe deadlock and live lock.	(06 Marks)
	b.	Explain the ways of handling the missed deadlines.	(07 Marks)
	c.	Define priority inversion and in brief explain the conditions which are n	ecessary for
		unbounded inversion.	(07 Marks)
6	a.	Explain RTOS system software mechanisms.	(10 Marks)
	Ь.	Explain the single step debugging used to debug errors in RTOS.	(10 Marks)
		Emplain and on great participation and the decag enters in 14100.	(10 Marks)
7	a.	Give the basic concepts of drill-down tuning.	(06 Marks)
	b.	Explain the basic methods for building performance monitoring into softwar	
			(07 Marks)
	C.	What is fundamental optimization and explain the method for optimizing code se	
			(07 Marks)
8	a.	Explain similarities and differences of reliability and availability in RTOS design	
	-	The state of the s	(10 Marks)
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b. Explain reliable software and available software for high availability and reliability design in RTOS applications. (10 Marks)