D6802

Reg No.:____

Name:

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: EC308 Course Name: EMBEDDED SYSTEMS (EC)

Max. Marks: 100

Duration: 3 Hours

Pages: 2

PART A

		Answer any two full questions, each carries 15 marks.	Marks
1	a)	Explain various types of embedded system processors and also write their	(8)
		advantages and disadvantages.	
	b)	Draw the diagram of I^2C frame format. Explain each field.	(7)
2	a)	Explain the different embedded system development life cycle models.	(7)
	b)	Explain different data transfer modes used in USB bus standard.	(5)
	c)	Describe the various modes of serial communication.	(3)
3	a)	Discuss briefly the challenges in embedded system design.	(5)
	b)	Compare RISC and CISC architecture.	(3)
	c)	What is bus arbitration? Explain the bus arbitration scheme used in CAN bus	(7)
		with an example.	

PART B Answer any two full questions, each carries 15 marks.

4	a)	What is interrupt? What are the sources of interrupt? How it is handled.	(8)
	b)	What are the features of embedded C++. Explain each one in detail.	(7)
5	a)	Explain about memory devices drivers.	(7)
	b)	What are the common software tools used for testing and debugging during	(8)
		embedded system development? Explain with examples.	
6	a)	What are the different modes in which a DMA controller transfers data between	(3)
		memory and a peripheral?	
	b)	Explain any four types I/O devices used in embedded system.	(4)
	c)	Discuss the hardware and software components required for designing an ATM	(8)
		machine.	

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PART C Answer any two full questions, each carries 20 marks.

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7	a)	Give the structure of a process control block (PCB) and explain each block.		(10)
	b)	Discuss the major functions of a Kernel.		(4)
uel)	c)	Explain the Earliest deadline first scheduling for process management in RTOS.	71	(6)
8	a)	Explain the concept mailbox and message queue used in IPC.		(10)
	b)	Explain about the memory allocation related functions in Micro C/OS-II.	ę	(10)
9	a)	Discuss the circumstances which lead to priority inversion in RTOS. How can	it	(6)
	14	be resolved? bus groups our analyse or his days in a series of the second se		
	b)	What is meant by critical section of a task? How it can be run by RTOS?		(4)
	c)	Write a short note on popular real-time operating systems.		(10)
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	and a the discrete development? Extra de write the major.	
1	. When are no different modes in which a DM a neutroller musters data between	
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	Provide survivour types (10) devices used in embedded systems	