## B.E/B.TECH, M.E/M.TECH, MBA, MCA, POLYTECHNIC & SCHOOLS

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	Reg. No. :
	Question Paper Code: 20524
	B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.
	Sixth/Seventh/Eighth Semester
	Electrical and Electronics Engineering
	EE 8691 — EMBEDDED SYSTEMS
	(Common to : Electronics and Instrumentation Engineering/Instrumentation and Control Engineering/Electrical and Electronics Engineering)
	(Regulations 2017)
T	Sime: Three hours Maximum: 100 marks
	Answer ALL questions.
	PART A — $(10 \times 2 = 20 \text{ marks})$
1	. What are the typical characteristics of embedded systems?
2	. What is the need of Watch dog timer?
3	. Mention the features of CAN bus.
4	. What is the need for device drivers?
5	. Why is state machine model essential?
6	. Compare dataflow model and finite state model.
7	. Define task and task states.
8	. Compare preemptive and non-preemptive scheduling.
9	. What is an Electronic Control Unit (ECU)? Give its uses.
1	0. List any six, key players of the automotive embedded market.

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			DAPT P /5 × 12 = 65 monks)		
			PART B — $(5 \times 13 = 65 \text{ marks})$		
11	. (a)	(i)	Elaborate about the structural units in embedded processo how a processor is selected for an embedded application?	or and (7)	
		(ii)	Explain the concept of DMA.	(6)	
			Or		
	(b)	(i)	Explain the various memories used, in embedded systems.	(8)	
		(ii)	Describe the working principle of In-circuit emulator.	(5)	
12	. (a)	(i)	Explain in detail, about SPI communication protocol and		
		(ii)	interfacing techniques.	(7)	
		(ii)	Explain Inter Integrated Circuit Bus in detail.	(6)	
			Or		
	(b)	(i)	Compare the advantages and disadvantages of data transfer serial and parallel port/devices.	using (6)	
		(ii)	Explain RS-232C and RS-485 Serial interfaces.	(7)	
13	. (a)	Illustrate in detail, about the different phases of EDLC, with an example. (13)			
			Or		
	(b)	(i)	Illustrate some of the fundamental issues in hardware sof	twom	
	(b)	(1)	co-design.	(7)	
		(ii)	Illustrate State machine model and sequential program model example.	, with (6)	
14	(a)		strate in detail, about the Inter process Communication and Cotching.	ontext (13)	
			Or		
	(b)	(b) Illustrate the following task communication processes.			
		(i)	Shared Memory	(3)	
		(ii)	Pipes	(3)	
		(iii)	Memory Mapped Objects	(3)	
		(iv)	Message Queues	(2)	
		(v)	Signal	(2)	
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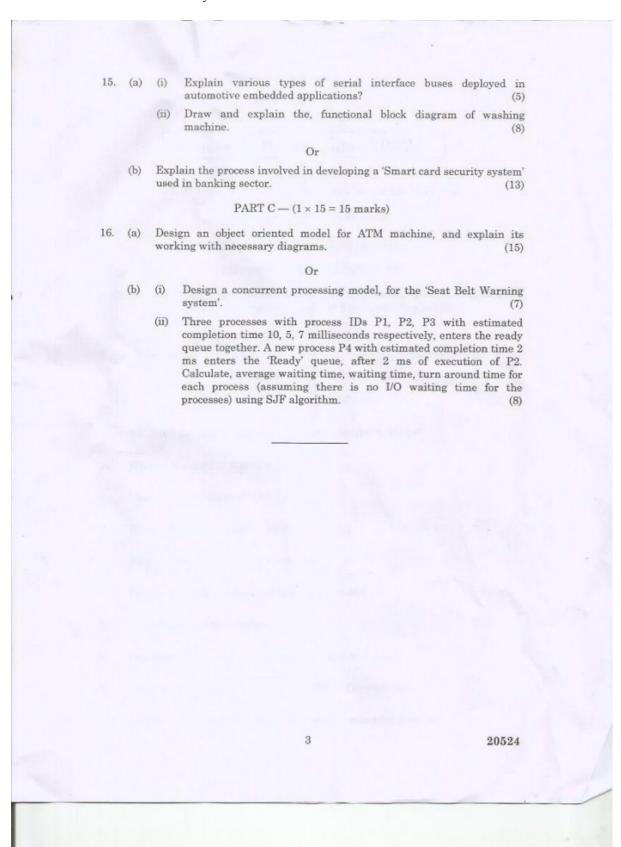
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