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Vivekananda College of Engineering & Technology, Puttur
 [A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]
 Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

CRM08

Rev 1.10

CS

26/08/22

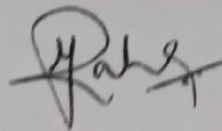
CONTINUOUS INTERNAL EVALUATION - 3

Dept: CS	Sem / Div: 4 CS A/B	Sub: Microcontroller & Embedded Systems	S Code: 18CS44
Date: 01/09/2022	Time: 3:00-4:30 pm	Max Marks: 50	Elective: N

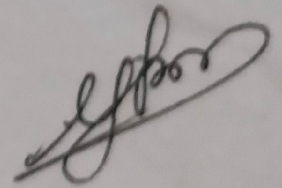
Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
PART A				
1 a	With FSM model, explain the design and operation of automatic tea / coffee vending machine.	9	L2	CO3
b	Explain Data Flow Graph (DFG) and Control Data Flow Graph (CDFG) computational model?	8	L2	CO3
c	List the difference between i. C and Embedded C ii. Compilers and Cross Compilers	8	L1	CO3
OR				
2 a	Explain the different communication buses used in automotive domain.	9	L2	CO3
b	Explain the fundamental issues in hardware software co-design	8	L2	CO3
c	List the advantages and disadvantages of i. Assembly language based embedded firmware development ii. High level language based embedded firmware	8	L1	CO3

		development			
PART B					
3	a	With neat diagram explain the operating system architecture.	9	L2	CO4
	b	What is a deadlock? What are the different conditions favoring deadlock?	8	L2	CO4
	c	Explain out-of-circuit programming technique for embedding firmware into target board.	8	L2	CO4
OR					
4	a	Explain the structure of process, memory organization and state transition of a process.	9	L2	CO4
	b	Explain the remote procedure call (RPC) mechanism for IPC	8	L2	CO4
	c	Explain the Boundary Scan based hardware debugging in detail	8	L2	CO4



Prepared by: Mohan A R



HOD