

CONTINUOUS INTERNAL EVALUATION- 3

Dept: CSE	Sem / Div:4CS A & B	Sub: Microcontroller & Embedded Systems	S Code: 18CS44
Date: 05.08.2021	Time:3:00PM - 4:30PM	Max Marks: 50	Elective: N
Note: Answer any 2 full questions, choosing one full question from each part.			

Q N	Questions	Marks	RBT	COs
PART A				
1 a	What is operational quality attribute? Explain the important operational quality attributes to be considered in any embedded system design	9	L2	CO3
b	Explain Sequential Program model and Object-Oriented model	9	L2	CO3
c	Explain the Super loop based embedded firmware design approaches in detail	7	L2	CO3
OR				
2 a	What is hardware software co-design? Explain the fundamental issues in hardware software co-design	9	L2	CO3
b	Explain the different electronic control units (ECUs) and automotive communication buses used in automotive applications	9	L2	CO3
c	Explain the advantages and disadvantages/drawbacks of i) 'Assembly language' based embedded firmware development ii) 'High level language' based embedded firmware development	7	L2	CO3
PART B				
3 a	What is kernel? What are different functions handled by kernel for a general-purpose OS?	9	L3	CO4
b	What is task control block (TCB)? Explain structure of TCB	9	L2	CO4
c	Differentiate b/n Thread and Process	7	L3	CO4
OR				
4 a	Explain the different techniques available for Embedded firmware debugging	9	L3	CO4
b	Explain structure of a process and explain Process Life Cycle with various activities involved in the creation of process (State transition with diagram)	9	L2	CO4
c	Explain the remote procedure call (RPC) mechanism for IPC	7	L3	CO4