Code No.: EC722OE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - November- 2024
INTRODUCTION TO EMBEDDED SYSTEMS
(Common for CSC, CSM, IT)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	What are the main components of an embedded system?	[2M]
	b)	What are the various types of memory in embedded systems?	[2M]
	c)	Define programmable logic device.	[2M]
	d)	What is the difference between I2C and SPI communication interface?	[2M]
	e)	What is absolute object file?	[2M]
	f)	Discuss about the object to hex file converter.	[2M]
	g)	How does the task scheduler know when a task has is engaged in OS?	[2M]
	h)	What are the ways to choose device drivers?	[2M]
	i)	What is the difference between embedded hardware and firmware?	[2M]
	j)	What is the objective of debugging?	[2M]

PART-B **(50 Marks)**

2.	Mention the various applications of embedded systems and explain in detail.	[10M]
	OR	
3.	Discuss the characteristics of Embedded systems.	[10M]
4.	Write the difference between RISC and CISC processors?	[10M]
	OR	
5.	What are the SPI and I2C interfaces in embedded systems?	[10M]
6.	Explain about library file creation and usage in the assembly language based development.	[10M]
	OR	
7.	What is the process of mixing high level language with low level language assembler directives?	[10M]
8.	Give the comparison between multitasking, multiprogramming and multi-processing.	[10M]
	OR	
9.	Explain any three types of inter process communication functions between the tasks	[10M]
10.	What are the different types of files generated on cross compilation?	[10M]
	OR	
11.	What is the principle of debugging? What are the steps in the debugging process?	[10M]

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