Hall Ticket Number:

Code No. : 16641 N

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD
Accredited by NAAC with A++ Grade
B.E. (I.T.) VI-Semester Main Examinations, May/June-2023
Embedded Systems and IoT

Time: **3 hours**

Max. Marks: **60**

*Note: Answer all questions from **Part-A** and any **FIVE** from **Part-B***

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Write differences between complex systems and Microprocessors?	2	1	1	1
2.	What is an interrupt? How many types of interrupts are available?	2	1	1	1
3.	List out advantages and of ARM processor.	2	1	2	1
4.	Why we need to interface ADC with 8051.	2	1	2	1
5.	Define Internet of Things.	2	1	3	1
6.	List out IoT Enabling Technologies.	2	2	3	1
7.	Explain Raspberry Pi interfaces.	2	1	4	1
8.	List the differences between IoT and M2M.	2	2	4	2
9.	List out open-source platforms for Embedded Systems.	2	1	5	1
10.	Write differences between Embedded Systems and IoT.	2	1	5	2

Part-B (5 × 8 = 40 Marks)

Q. No.	Stem of the question	M	L	CO	PO
11. a)	Explain 8051 architecture with neat sketch.	4	2	1	1
b)	Explain the modes of operation of timers in 8051?	4	2	1	1
12. a)	Write an embedded C program to interface stepper motor with 8051and rotate in clockwise direction continuously?	4	3	2	3
b)	Explain ARM architecture with neat diagram.	4	2	2	1
13. a)	Define IoT and explain the characteristics of IoT.	4	2	3	1
b)	Explain uses of IoT in Agriculture System.	4	3	3	1
14. a)	Explain the different steps in IoT design.	4	3	4	1
b)	Compare the important features of I2C, CAN and SPI.	4	3	4	1

				M	L	CO	PO
				4	2	5	1
15.	a)	Explain Zynq SOC Architecture.		4	3	5	1
	b)	Mention Open-source platforms for IoT and explain with examples.		4	3	1	2
16.	a)	How would you explain classification of real time scheduling?		4	2	2	1
	b)	Explain ARM CPU cores.					
17.		Answer any *two* of the following:					
	a)	Why wireless sensors involved in IoT?		4	3	3	1
	b)	Explain basic building blocks of IoT.		4	2	4	1
	c)	How would you explain Embedded Systems platforms for IoT.		4	3	5	1

M : Marks;   L: Bloom's Taxonomy Level;   CO; Course Outcome;   PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	40%
iii)	Blooms Taxonomy Level – 3 & 4	40%

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