Reg.No: | | | | | | |

SNS College of Technology, Coimbatore-35.
(An Autonomous Institution)
B.E/B.Tech- Internal Assessment -III
Academic Year 2023-2024(Even Semester)
Fourth Semester
Electronics & Communication Engineering
19ECB211 – Microcontroller Programming & Interfacing

A

Time: 1$^{1/2}$ Hours   **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	Blooms
1.	Distinguish PIC and ARM	CO4	Ana
2.	List the different interfacing devices of PIC Microcontroller	CO4	Rem
3.	Compare MSP430 and ARM	CO5	Ana
4.	Explain Thumb Instruction	CO5	Und
5.	How many programming modes are in ARM?	CO5	Rem

PART – B (2*13=26 Marks) (1*14=14 Marks)

				CO	Blooms
6.	(a)	Define elaborately about interfacing of keyboard with PIC16F877A.	13	CO4	Rem
		(or)			
	(b)	Explain about the relays and Optocouplers and how it is interfaced with PIC16F family.	13	CO4	Und
7.	(a)	Define the evolution of the ARM architecture.	13	CO5	Rem
		(or)			
	(b)	Analyse and explain the architecture of MSP430 with its applications.	13	CO5	Ana
8.	(a)	Explain a sensor data acquisition and output control system for an industrial automation application for 16F877A microcontroller. This system needs to read analog signals from various sensors, process the data, and then output control signals to actuators.	14	CO4	Und
		(or)			
	(b)	Develop a home automation system by using an ARM Cortex-M microcontroller to handle various tasks such as sensor data acquisition, communication, and control of actuators. To effectively develop and optimize your firmware, it is crucial to understand the ARM programmer's model and its different programming modes.	14	CO5	App

Academic Co-ordinator   **HoD/ECE**
Abbreviations:

CO – Course Outcomes; **Rem-** Remembering; **Und –** Understanding; **App –** Applying; **Ana –** Analyzing;

1

Reg.No:

SNS College of Technology, Coimbatore-35.
(An Autonomous Institution)
B.E/B.Tech- Internal Assessment -III
Academic Year 2023-2024(Even Semester)
Fourth Semester
Electronics & Communication Engineering
19ECB211 – Microcontroller Programming & Interfacing

A

Time: 1$^{1/2}$ Hours   **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	Blooms
1.	Distinguish PIC and ARM	CO4	Ana
2.	List the different interfacing devices of PIC Microcontroller	CO4	Rem
3.	Compare MSP430 and ARM	CO5	Ana
4.	Explain Thumb Instruction	CO5	Und
5.	How many programming modes are in ARM?	CO5	Rem

PART – B (2*13=26 Marks) (1*14=14 Marks)

				CO	Blooms
6.	(a)	Define elaborately about interfacing of keyboard with PIC16F877A.	13	CO4	Rem
		(or)			
	(b)	Explain about the relays and Optocouplers and how it is interfaced with PIC16F family.	13	CO4	Und
7.	(a)	Define the evolution of the ARM architecture.	13	CO5	Rem
		(or)			
	(b)	Analyse and explain the architecture of MSP430 with its applications.	13	CO5	Ana
8.	(a)	Explain a sensor data acquisition and output control system for an industrial automation application for 16F877A microcontroller. This system needs to read analog signals from various sensors, process the data, and then output control signals to actuators.	14	CO4	Eva
		(or)			
	(b)	Develop a home automation system by using an ARM Cortex-M microcontroller to handle various tasks such as sensor data acquisition, communication, and control of actuators. To effectively develop and optimize your firmware, it is crucial to understand the ARM programmer's model and its different programming modes.	14	CO5	App

Abbreviations:

   CO – Course Outcomes; **Rem-** Remembering; **Und –** Understanding; **App –** Applying; **Ana –** Analyzing;