R20 Regulation *Subject code:3P5DD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Supplementary Examinations, December 2024

MICROPROCESSORS AND MICROCONTROLLERS

(ECE)

Maximum Marks: 70 Date:03.01.2025 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

	Part-A		
All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	Define Mask able and Non-Mask able Interrupts of 8086 microprocessor.	1	L1
2	Explain the use of Queue in 8086 microprocessor.	1	L1
3	Explain PUSH and POP Instructions in 8051.	2	L1
4	List out different interrupts of 8051 Microcontroller.	2	L1
5	Draw control word frame for BSR mode of 8255.	3	L1
6	Explain about USB.	3	L1
7	List out few comparisons of ARM and Microcontroller.	4	L1
8	List & Explain Condition code flags in Current Program status register of ARM Processor.	4	L1
9	Mention different types of CORTEX processor.	5	L1
10	Classify OMAP Processors.	5	L1
	Part-B		
Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Explain the Architecture of 8086 Microprocessor with a neat sketch. [10M]	1	L2
	OR		
12	List and Explain 8086 Microprocessor Data Transfer instructions with examples. [10M]	1	L2
13	Describe Functional blocks of 8051 microcontroller in detail with neat sketch. [10M]	2	L2
	OR		
14	Explain different modes of serial port in 8051 microcontrollers. [10M]	2	L2
15	What is I2C BUS? Discuss its working with neat sketch. [10M]	3	L2
	OR		
16	What is the need of Digital to Analog Converter? Explain Interfacing of the D to A Converter with 8051 Microcontroller. [10M]	3	L2

17	Draw and explain ARM processor architecture. [10M]	4	L2
	OR		
18	Explain in detail about Branch Instructions and Software Interrupt Instructions of ARM processor. [10M]	4	L2
19	List out classification of CORTEX processor and explain one type with its neat architecture. [10M]	5	L2
	OR		
20	Discuss with a neat sketch the architecture of OMAP Processor. [10M]	5	L2