R20 Regulation *Subject code: 3O6FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

MICROPROCESSORS AND MICROCONTROLLERS

(IT)

Maximum Marks: 70 Date: 13.11.2025 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.
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)		Marks	CO	BTL
1	Define Parity Flag in 8086 microprocessor.	2M	1	L1
2	How to calculate the physical address of memory in 8086.	2M	1	L1
3	Write the different logical instructions of 8051.	2M	2	L1
4	Draw the frame format of PSW.	2M	2	L1
5	Define the terms Simplex and Half Duplex.	2M	3	L1
6	Write about RAM and ROM.	2M	3	L1
7	Expand ARM and write its applications.	2M	4	L1
8	What is the size of Thumb instruction set of ARM Processor?	2M	4	L1
9	Draw the frame format of CPSR.	2M	5	L1
10	Mention different applications of CORTEX processor.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain the Architecture of 8086 Microprocessor with a neat sketch.	10M	1	L2
	OR			
12	List the string manipulation instruction set of 8086 microprocessors with examples.	10M	1	L2
13	Draw the Pin diagram of 8051 microcontroller and explain each pin in detail.	10M	2	L2
	OR			
14	Write short notes on Timers and Counters concept in 8051 microcontroller.	10M	2	L2
15	What is the purpose of UART? Explain it with neat diagram.	10M	3	L2
	OR			
16	Discuss the interfacing of 4X4 Keyboard to detect Key numbers with 8051 microcontroller.	10M	3	L2
17	Explain about the different vector table in ARM processors.	10M	4	L2
	OR			
18	Explain Data Processing instructions of ARM with examples.	10M	4	L2
19	List the main features of CORTEX Processor. Explain registers of ARM Cortex processor.	10M	5	L2
	OR			
20	List the main features of OMAP Processor. With a neat diagram explain the architecture of OMAP Processor.	10M	5	L2