R18 Regulation *Subject code:2O6EA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

MICROPROCESSORS AND MICROCONTROLLERS

(CSE)

Maximum Marks: 70 Date: 21.11.2025 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	State the functional units available in 8086.	2M	1	L1
2	Explain special function of general purpose registers?	2M	1	L1
3	Draw the PSW Register of 8051 microcontroller.	2M	2	L1
4	What are the advantages of microcontroller over microprocessor?	2M	2	L1
5	What is need of USB?	2M	3	L1
6	Write short notes on RAM and ROM.	2M	3	L1
7	List any 3 features of ARM.	2M	4	L1
8	Explain the flags available in CPSR in ARM.	2M	4	L1
9	Mention applications of CORTEX processor.	2M	5	L1
10	What are the advantages of OMAP Processors?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Draw the Minimum mode Pin diagram of 8086 and explain all signals.	10M	1	L2
	OR			
12	List and explain different Arithmetic Instructions of 8086 microprocessor with neat examples.	10M	1	L2
13	Explain TCON & TMOD Register with a diagram in 8051 microcontroller	10M	2	L2
	OR			
14	Describe Memory Organization of 8051 microcontroller neatly.	10M	2	L2
15	Write short notes on Serial Communication standards and Explain I2C BUS working.	10M	3	L2
	OR			
16	Explain Interfacing of D to A Converter with 8051 Microcontroller.	10M	3	L2
17	Write about the REGISTERS of ARM Processor.	10M	4	L2
	OR			
18	Explain Data Processing Instructions of ARM Processor.	10M	4	L2
19	With a neat diagram, explain the Architecture of CORTEX Processor.	10M	5	L2
	OR			
20	Draw and explain the functional diagram of OMAP Processor.	10M	5	L2