R18 Regulation *Subject code:2P5BC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, November 2025

MICROPROCESSORS AND MICROCONTROLLERS

(EEE)

Maximum Marks: 70 Date: 22.11.2025 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	List the names of segment registers in 8086 microprocessor.	2M	1	L1
2	Give formula for physical address calculation.	2M	1	L1
3	Write two differences between microprocessor and microcontroller.	2M	2	L1
4	How many address and data lines in 8051.	2M	2	L1
5	Draw the TMOD register.	2M	3	L1
6	What is the use of SPI Bus.	2M	3	L1
7	Expand CPSR.	2M	4	L1
8	Expand ARM.	2M	4	L1
9	Write any two applications of OMAP processor.	2M	5	L1
10	Write any two features 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	Draw the Pin diagram of 8051 microcontroller and explain each pin in detail.	10M	1	L2
13	Explain in detail about interrupts & interrupt registers in 8051 microcontroller.	10M	2	L2
	OR			
14	Draw and explain TMOD & TCON registers in detail.	10M	2	L2
15	Describe LCD interfacing with 8086 with neat diagram.	10M	3	L2
	OR			
16	Explain the stepper motor interfacing with 8086.	10M	3	L2
17	Explain Load & Store instructions of ARM processor.	10M	4	L2
	OR			

18	Explain ARM architecture with neat diagram.	10M	4	L2
19	Explain the architecture of CORTEX Processor with neat diagram.	10M	5	L2
	OR			
20	List out different classifications of OMAP processor and explain one type in detail.	10M	5	L2