R18 Regulation *Subject code:2O7FA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, November 2025

MICROPROCESSORS AND MICROCONTROLLERS

(IT)

Maximum Marks: 70 Date:01.12.2025 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 advantages of Memory Segmentation.	2M	1	L1
2	Calculate physical address of memory with address 4320:5600?	2M	1	L1
3	Explain PUSH and POP Instructions in 8051.	2M	2	L1
4	What are the advantages of microcontroller over microprocessor?	2M	2	L1
5	Explain the importance of Memory interfacing in 8051.	2M	3	L1
6	Write short notes on Asynchronous Serial data Transfer.	2M	3	L1
7	Expand ARM. Write its applications.	2M	4	L1
8	Explain the concept of Loading Constants in ARM Processor.	2M	4	L1
9	What are applications of OMAP.	2M	5	L1
10	Mention external interfacing on 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 and Explain 8086 Microprocessor Data Transfer instructions with examples	10M	1	L2
13	Draw the Pin diagram of 8051 microcontroller and explain each pin in detail.	10M	2	L2
	OR			
14	Explain the Architecture of 8051 Microcontroller with a neat sketch.	10M	2	L2
15	a) Explain Asynchronous transmission in serial mode. b) Write short notes on SPI Bus with neat diagram.	5M 5M	3	L2
	OR			
16	Design the interfacing of external RAM with 8051 microcontroller with neat diagram.	10M	3	L2
17	Draw and Explain the Architecture of ARM Processor	10M	4	L2

	OR			
18	Explain Data Processing instructions of ARM.	10M	4	L2
19	List out different classification of OMAP Processor and Explain one type in detail with its architecture.	10M	5	L2
	OR			
20	Draw and explain the functional diagram of OMAP Processor.	10M	5	L2