R20 Regulation *Subject code: 3P6BD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, April 2026

MICROPROCESSORS AND MICROCONTROLLERS

(EEE)

Maximum Marks: 70 Date: 21.04.2026 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 Mask able and Non-Mask able Interrupts of 8086 microprocessor.	2M	1	L1
2	What is the use of Queue in 8086 microprocessor.	2M	1	L1
3	State the PUSH and POP Instructions in 8051.	2M	2	L1
4	What are the categorize Register Banks of RAM in 8051.	2M	2	L1
5	What is need of RS-232?	2M	3	L1
6	Write short notes on RAM and ROM.	2M	3	L1
7	List ARM 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 in present generations.	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	Explain 8086 Microprocessor Arithmetic and Logical instructions with examples.	10M	1	L2
13	What are various addressing modes supported by 8051 Microcontroller? Describe with neat examples.	10M	2	L2
	OR			
14	Write short notes on Timers and Counters concept in 8051 microcontroller.	10M	2	L2
15	a) What is the purpose of UART? Explain it with neat diagram. b) Write short notes on USB external communication interface.	5M 5M	3	L2
	OR			
16	Discuss the interfacing of 4X4 Keyboard to detect Key numbers with 8051 microcontroller.	10M	3	L2
17	Draw ARM Programmer Model and explain it.	10M	4	L2
	OR			

18	a) Describe ARM Processor Interrupt Vector Table. b) Explain LOAD and STORE instructions of ARM.	5M 5M	4	L2
19	List out classification of CORTEX processor and explain one type with its neat architecture.	10M	5	L2
	OR			
20	List out different classifications of OMAP processor and explain one type in detail.	10M	5	L2

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