R20 Regulation *Subject code: 3P6BD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, February 2024

MICROPROCESSORS & MICROCONTROLLERS

(Electrical & Electronics Engineering)

Maximum Marks: 70 Date: 22.02.2024 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 which carries 10M.
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)		CO	Bloom Tx
1	List out the uncommon pins of 8086 processor in minimum and maximum mode.	CO1	L1
2	What are the flags in PSW of 8086 microprocessor.	CO1	L1
3	List the differences between 8086 MP and 8051 MC.	CO2	L1
4	Explain about the concept of internal and external memory of 8051.	CO2	L2
5	Distinguish between parallel communication and serial communication.	CO3	L2
6	Write about USB off board communication interface.	CO3	L1
7	List out different 16 bit registers of ARM processor.	CO4	L1
8	Explain about MOV and MUL instructions.	CO4	L2
9	What are the features of CORTEX processors.	CO5	L1
10	What are the applications of OMAP processor.	CO5	L1
	Part-B		
Answer All the following questions. (5X10M=50Marks)			
11	Explain the internal architecture of 8086 microprocessor with functional blocks. (10M)	CO1	L2
	OR		
12	A. Illustrate the significance of memory segmentation. Mention its advantages and disadvantages (5M) B. List out Addressing modes of 8086 microprocessor with different examples. (5M)	CO1	L2 L2
13	Explain in detail the memory organization of 8051 microcontroller. (10M)	CO2	L2
	OR		
14	Explain operation of timer in mode 1. Discuss programming steps to generate time delay using mode-I. (10M)	CO2	L2
15	Draw and explain interfacing of DAC with 8051 microcontrollers With a neat diagram. (10M)	CO3	L3
	OR		

16	Explain about SPI communication protocol. (10M)	CO3	L2
17	Explain the architecture of ARM processor with a neat diagram. (10M)	CO4	L2
	OR		
18	A. What are the conditional instructions in ARM processor? Explain (5M) B. List out any five Software interrupt instruction in detail (5M)	CO4	L2 L2
19	List the main features of OMAP processor. With a neat diagram, explain the architecture of OMAP processor. (10M)	CO5	L2
	OR		
20	Explain in detail about CORTEX architecture. (10M)	CO5	L2