R20 Regulation *Subject code:3P6BD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Regular Examinations, June/July 2023

MICROPROCESSORS & MICROCONTROLLERS

(Electrical & Electronics Engineering)

Maximum Marks: 70 Date:30.06.2023 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)

1 List out the 8086 hardware interrupts.
2 Give two examples of Assembler Directives of 8086.
3 Define TMOD format of 8051 in detail
4 Draw PSW in 8051 microcontroller
5 What is the significance of Timer-0?
6 Explain RAM.
7 What is the importance of CPSR in ARM architecture
8 What are the software interrupts in ARM processor
9 What are different ARM cortex processors. and give different examples.
10 What are the applications of OMAP

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 A. What is an interrupt? What are the different interrupts available in 8086 microprocessor? (5M)
B. Consider DS =3000H Calculate the physical address is represented by (3M+2M)
i) Mov AX,[5000] ii) Mov BX ,[2000]

OR

12 A. List out different string manupulation instructions used in 8086 microprocessor and explain each one in detail (5M)
B. Explain different assembler directives used in 8086 microprocessor (5M)

13 Explain the internal architecture of 8051 microcontroller in detail. (10M)

OR

14 Elaborately explain the types of I/O operations with neat diagrams. (10M)

15 Design the memory organization to justify to meet the requirement of 8K RAM using 2K RAM and 4K ROM for 8051 Microcontroller mention there starting and ending memory locations with memory design. (10M)

OR

16 A. Discuss the interfacing of external RAM with 8051 microcontroller (5M)
B. Write program to generate sine wave at the output of DAC. (5M)

17 Explain different Thumb programming model of ARM controller with examples. (10M)

OR

18 Explain the internal architecture of ARM processor. (10M)

19 List out different classifications of OMAP processor and explain in dtail. (10M)

OR

20 Explain the architecture of CORTEX processor. (10M)