R20 Regulation *Subject code: 3O6FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

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

MICROPROCESSORS AND MICROCONTROLLERS

(Information Technology)

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 Which type of operation indicated by status lines of 8086?
2 Draw the 8086 flag register.
3 Define baud rate of 8051.
4 Mention the interrupt priority in 8051.
5 Mention two differences of RAM and ROM.
6 List the advantages of UART
7 Mentions the Thumb instructions.
8 What is a banked register?
9 What are the features of OMAP?
10 What are the types of CORTEX-M series?

Part-B

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

11 A. Describe the implementation of pipelined process of 8086. 5M
B. Explain the physical memory organization of 8086. 5M

OR

12 Draw the internal architecture of 8086 microprocessor and explain its operation. 10M

13 Draw the internal architecture of 8051 Microcontroller and explain its operation. 10M

OR

14 A. Draw the PSW and TCON registers of 8051 microcontrollers. 5M
B. Explain how interrupts are prioritized? 5M

15 Explain the briefly the different modes operation of 8255 PPI. 10M

OR

16 Describe the interfacing of D/A Converter with a neat sketch. 10M

17 Explain the ARM Single-Register and Multiple-Register load-store addressing modes with example. 10M

OR

18 A. Explain the Thumb Instructions of ARM processor. 5M
B. Write about the fundamentals of ARM processor. 5M

19 Draw and explain the architecture of OMAP processor. 10M

OR

20 Explain the architecture of CORTEX processor with neat diagram 10M