R18 Regulation *Subject code:* 2P5BC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, July 2022

MICROPROCESSORS AND MICROCONTROLLERS

(EEE)

Maximum Marks: 70 Date: 05.07.2022 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)

1 What is the difference between minimum mode and maximum mode of 8086?
2 Show the format of 8086 flag register?
3 List any four features of 8051 microcontroller?
4 What is the PSW register format in 8051 microcontrollers?
5 How much external memory can interface with 8051 microcontroller?
6 What is the need of RS232 interface?
7 List any four data processing instructions in ARM processor?
8 How pipelining can be achieved in ARM processor?
9 List any four features of ARM Cortex.
10 Mention the format of program status register of ARM processor?

Part-B

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

11 Explain the functional block diagram of 8086 microprocessor? [10]

OR

12 a) Explain minimum mode pin diagram of 8086 system.
b) Show the read and write cycle timing diagrams for minimum mode 8086 system? [5+5]

13 a) Explain the addressing modes of 8051 microcontroller?
b) Compare the features of microprocessor and microcontroller? [5+5]

OR

14 Explain the instructions sets of 8051 Microcontroller? [10]
15 Explain the basic modes of operation of 8255 PPI. With neat sketch? [10]

OR

16 a) Explain I2C Bus with neat diagram.
b) Explain RS-232 Interface? [5+5]
17 a) Explain the important features of ARM processor?
b) Write a note on Introduction to Thumb instructions? [5+5]

OR

18 Explain the ARM processor architecture. [10]
19 Explain CORTEX Processor and its architecture? [10]

OR

20 Explain OMAP Processor and its Architecture? [10]