Regulation R18 *Subject code: 2O7FA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, April 2024

MICROPROCESSORS AND MICROCONTROLLERS

(IT)

Maximum Marks: 70 Date:29.04.2024 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.
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 do you understand by opcode and operand?
2 How to calculate the physical address of memory in 8086. Explain with one example.
3 What are the different features of 8051 microcontroller.
4 What are the advantages of microcontroller over microprocessor?
5 Define EEPROM.
6 Write short notes on USB.
7 Write the main features of ARM?
8 Write any two applications of ARM processor.
9 Mention different types of CORTEX processor.
10 Classify OMAP Processors.

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain the Architecture of 8086 Microprocessor with a neat sketch. [10]

OR

12 List and Explain 8086 Microprocessor Arithmetic and Logical instructions with examples. [10]

13 Describe functional blocks of 8051 microcontroller in detail with neat sketch. [10]

OR

14 a) Explain Interrupt Structure of 8051 microcontroller. [5]
b) Explain the Programming of Timer interrupt. [5]

15 Draw and explain the architecture of 8255 PPI with neat diagram. [10]

OR

16 Explain external communication interface. [10]

17 What is the size of ARM Registers? Explain in detail the register set of ARM Processor. [10]

OR

18 Explain Data Processing instructions of ARM. [10]

19 List out classification of CORTEX processor and explain one type with its neat sketch. [10]

OR

20 List the main features of OMAP Processor. With a neat diagram explain the architecture of OMAP Processor. [10]