R18 Regulation *Subject code:* **2O7FA**

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, July 2022

MICROPROCESSORS AND MICROCONTROLLERS

(IT)

Maximum Marks: 70 Date:06.07.2022 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 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 Name the functional units of 8086 microprocessor.
2 Write about stack pointer & instruction pointer.
3 Write the functions of the bits PSW.1 & PSW.2
4 List out the addressing modes in 8051.
5 Identify the purpose of ADC interfacing?
6 Distinguish between ROM and RAM.
7 Define PSR.
8 Enumerate the use of interrupt vector table.
9 Write the importance of OMAP in communication.
10 List the classifications of OMAP Processor.

Part-B

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

11 A. Evaluate the organization of registers in 8086?
B. Construct the flag register in 8086 with neat diagram. [5+5]

OR

12 A. Examine the physical memory organization of 8086.
B. Interpret the following instructions.
i) MOV BX, [1234H] ii) ADC AX, BX [5+5]

13 Sketch the architecture and discuss the 8051 microcontroller. [10]

OR

14 Draw a neat sketch of memory organization of 8051 and explain in detail. [10]

15 Illustrate the interfacing of LCD is with 8051. [10]

OR

16 A. Analyze the interfacing of DAC with 8051 microcontrollers.
B. Outline the various modes of serial communication in 8051. [5+5]

17 Discuss the Registers in ARM. [10]

OR

18 Write short notes on software interrupt instructions. [10]

19 Discuss the architecture of OMAP Processor. [10]

OR

20 A. Characterize the Pipeline Process in Cortex-M3.
B. Estimate the applications of ARM CORTEX–M processor. [5+5]