Code No: **R1632023** **R16** SET - 1

III B. Tech II Semester Regular/Supplementary Examinations, August-2021

MICROPROCESSORS AND MICROCONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A **(14 Marks)**

1. a) What are the Physical and effective addresses in 8086? [2M]
   b) Describe the ASSUME and EQU assembler directive. [2M]
   c) Brief about 74LS138 Decoder. [2M]
   d) List sixteen bit registers of 8051. [3M]
   e) List out the various features of PIC18. [3M]
   f) Write in short about the two ways to create time delays in PIC18. [2M]

PART –B **(56 Marks)**

2. a) What is the purpose of Queue in 8086 microprocessors? Explain various arithmetic and logic operations supported by 8086. [7M]
   b) Explain the structure and various fields of 80386 segment descriptor. [7M]

3. a) Explain the following instruction used with 8086 Microprocessor. [4M]
      i) MUL; ii) SHR.
   b) Explain the various addressing modes used in 8086 microprocessors. [10M]

4. a) Draw the block diagram to interface the ADC to 8086 Microprocessor. Also write the assembly language program. [7M]
   b) Explain the sequence of operations to be performed during DMA data transfer. [7M]

5. a) Draw the Pin out diagram of 8051 Microcontroller and explain the operations of various pins. [10M]
   b) Draw and explain the significance of various bits of PSW in 8051 microcontrollers. [4M]

6. Briefly explain about the File registers, SFRs and GPRs of PIC18. [14M]

7. a) Write a C program to send values -5 to +5 to Port B of PIC18. [7M]
   b) List any 7 data types of C for PIC18. [7M]

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