R16

SET - 1

III B. Tech II Semester Supplementary Examinations, April - 2021
MICROPROCESSORS AND MICROCONTROLLERS
(Common to Electronics and Communication Engineering, Electronics and Instrumentation Engineering, Electronics and Computer 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) Write the functions of NMI and ALE pins of 8086.   [2M]
    b) Discuss 8086 instruction used for ASCII and BCD arithmetic.   [2M]
    c) Draw the format of read back command register of 8254.   [2M]
    d) List any seven features of 80486.   [3M]
    e) Differentiate between the external and internal program memory of 8051.   [3M]
    f) Write any four features of PIC 16F877 flash microcontroller.   [2M]

PART –B   (56 Marks)

2. a) Describe in detail about the register organization of 8086 microprocessor.   [7M]
    b) Draw and explain the system bus operation cycle of 8086 microprocessor.   [7M]

3. a) Describe briefly about different addressing modes of 8086.   [7M]
    b) Explain the work flow process in an assembler.   [7M]

4. a) With a neat sketch explain the pin configuration of 8254.   [7M]
    b) Explain in detail about DMA controller.   [7M]

5. a) Explain different functional signal groups in 80486.   [7M]
    b) Discuss the paging mechanism of 80386 in detail.   [7M]

6. a) Discuss in detail about parallel I/O ports in 8051 microcontroller and explain how   [7M]
       these ports are accessible for specific applications?
    b) Discuss the interrupt structure of 8051. Mention the priority. Explain how least   [7M]
       priority is made as highest priority?

7. a) Explain the interface of a PIC microcontroller with a PC using parallel slave port.   [7M]
    b) Write about the signal description of PIC 16F877 flash microcontroller.   [7M]

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