

**III B. Tech II Semester Supplementary Examinations, February-2022**  
**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) List out the features of 8086 microprocessor. [2M]
- b) Explain indirect memory addressing with an example. [2M]
- c) Draw the pin diagram of 8255 PPI. [2M]
- d) What is the function of Timer in 8051 microcontroller? [3M]
- e) Write the special function registers used by the I/O ports in PIC. [3M]
- f) Write a short note on Bitwise shift operator in PIC. [2M]

**PART –B****(56 Marks)**

2. a) Write the general bus operation of 8086 microprocessor. [7M]
- b) Explain the physical memory organization of 8086 microprocessor. [7M]
3. a) Discuss about the branching instructions of 8086 microprocessor. [7M]
- b) Explain the minimum mode operation of 8086 with the help of timing diagrams. [7M]
4. a) Draw the block diagram of 8259 and explain each block. [7M]
- b) Illustrate with an example, to interface an A/D converter with 8086 microprocessor. [7M]
5. a) Explain the serial communication in 8051 microcontroller. [7M]
- b) Describe the following registers of 8051 microcontroller: [7M]  
 (i) TCON (ii) SCON (iii) SBUF (iv) DPTR
6. a) Explain in detail about the File registers and Special Function Registers of PIC18. [7M]
- b) With a neat block diagram, explain the various features of PIC18. [7M]
7. a) List out the data types of C used for PIC18. [7M]
- b) Write a program in C to convert ASCII digits of '4' and '9' to packed BCD and display it on Port C. [7M]

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