

M.Sc.(Electronics) CBCS Pattern Semester-I  
**PSCELET03 - Advanced Microprocessors Paper-III**

P. Pages : 2

Time : Three Hours



**GUG/W/23/11156**

Max. Marks : 80

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- Notes :
1. All questions are compulsory and carry equal marks.
  2. Draw well labeled diagrams wherever necessary.
  3. Use of calculator is allowed.

**Either :**

1. a) Draw block diagram of Intel 8086 Architecture and explain BIU in it. **8**
- b) What is flag register? Draw and explain flag register of Intel 8086 microprocessor. **8**

**OR**

- c) Explain the functions of pointer and source index registers in Execution Unit (EU) of Intel 8086 microprocessor. **8**
- d) State any four data transfer instruction and explain. **8**

**Either :**

2. a) What are assembler directives? Explain various assembler directives used in writing Assembly Language. **8**
- b) What is stack? Discuss stack structure in 8086 microprocessor. **8**

**OR**

- c) What is subroutine? Explain how subroutine is executed with example. **8**
- d) Discuss PUSH and POP instructions in 8086 microprocessor. **8**

**Either :**

3. a) Draw internal architecture of 8255 programmable peripheral interface and function of each block. **8**
- b) Discuss control word register of 8255 PPI with suitable example. **8**

**OR**

- c) Describe architectural block diagram of 8279 keyboard interface/display controller. **8**
- d) Describe operating modes and control word register of 8279. **8**

**Either :**

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|-----------|----|--|----------|
| <b>4.</b> | a) | Compare the special features of 80286 with 80386 | <b>8</b> |
|           | b) | Describe Multimedia Extension (MMX) technology   | <b>8</b> |

**OR**

- |           |    |  |          |
|-----------|----|--|----------|
|           | c) | What is protected mode memory addressing? Describe its advantages. | <b>8</b> |
|           | d) | Describe in brief features of superscalar processor.               | <b>8</b> |
| <b>5.</b> | a) | State any two addressing modes of 8086.                            | <b>4</b> |
|           | b) | What is MASM Utility? Explain its features.                        | <b>4</b> |
|           | c) | Explain control word format of 8259 A.                             | <b>4</b> |
|           | d) | Discuss advantages of SIMD technology.                             | <b>4</b> |

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