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

P. Pages : 2
Time : Three Hours |*1334*| Max. Marks : 80

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Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labeled diagrams wherever necessary.

Either:

1. a) What is 16 - bit microprocessor? How it work? Draw the block diagram of a Microprocessor and explain each block? **8**

b) What is the difference between the architecture of 8086 and 8088? How many address buses are there in 8088? Explain in details. **8**

OR

c) Explain the feature of pipelining and queue in 8086 architecture. What are the advantages of memory segmentation of 8086? **8**

d) What is segmented memory and what are its advantages? Explain logical physical address in 8086. What are default segment assignments? **8**

Either:

2. a) What is assembly language programming? Write a short note on Assembler Directives. **8**

b) Write a short note on various assembly language directives and Macro functions. **8**

OR

c) Write an assembly language program of 8086 to find out factorial of number N. Also draw the flowchart. **8**

d) Explain PUSH and POP instructions and explain stack structure of 8086 microprocessor. **8**

Either:

3. a) Draw the block diagram of Programmable Peripheral Interface (PPI) 8255 and pin diagram. **8**

b) List different operating modes of a timer 8253 and explain any one mode. **8**

OR

c) Describe the internal architecture of the keyboard controller 8279. **8**

d) Explain the following terms related to 8259A. **8**

    i) Cascading.

    ii) Edge and level triggered modes.

    iii) Automatic EOI.

    iv) Automatic rotation.

Either:

4. a) Explain the super - scalar architecture in microprocessor. **8**

b) Compare the salient features of the 80386 and the 80486 processors. **8**

OR

c) Explain Protected Virtual Addressing Mode (PVAM). **8**

d) What is MMX technology? Explain the data type supported by MMX. **8**

5. Attempt the following.

a) Explain the various string manipulation instruction of the 8086 up with suitable examples. **4**

b) Write a program in assembly language for the sum of first ten natural numbers. **4**

c) Explain the command words of PPI 8255. **4**

d) What is SIMD technology? Explain in details. **4**

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