

Seat No. 

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मन - 034

## Microprocessor - III (1070)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** questions from each unit.
5. Assume suitable data if necessary.
6. Figure to the right indicates full marks.
7. Neat diagrams must be drawn wherever necessary.

### UNIT - I

1. a) Explain the use of all the control flag bits and system flag bits of 80386DX with their appropriate bit position. 10
- b) Explain the additional registers introduced in 80386 DX microprocessor. 10
- c) Enlist and explain the new instructions in 80386DX which can-
  - i) Manipulate 32-bit of data. 5
  - ii) Manipulate single bit. 5

### UNIT - II

2. a) Explain the ways of debugging support provided along with the format of debug registers in 80386 DX. 10
- b) Explain how protection is provided at page level in protected mode of 80386 DX. 10
- c) Explain the memory addressing scheme with the physical address formation in real mode of 80386 DX. 10

### UNIT - III

3. a) List and explain privilege level rules to access code, data and stack segments. 10

- b) Which are the options for a user program to access the more privileged instructions or more privileged procedures ? 10
- c) Only enlist the elements involved in context switching and explain each field of the data structure used in context switching. 10

**UNIT - IV**

4. a) Enlist and explain the types of interrupts and exceptions in 80386 DX. 10
- b) State the differences between 80387, 80287 and 8087 Math-coprocessor. 10
- c) Draw and explain each bit of following registers.
- i) Control word of 80387 NDP 5
- ii) Status word of 80387 NDP 5

**UNIT - V**

5. a) Draw and explain the Pentium system architecture with its superscaler execution and branch prediction logic. 10
- b) Draw the block diagram of Pentium - II motherboard layout and explain its features. 10
- c) Draw the functional block diagram of Pentium pro-processor and explain it in detail. 10

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