Exam. Code : 208603

Subject Code : 4722

M.Sc. Information Technology 3rd Semester

MICROPROCESSOR AND ITS APPLICATIONS

Paper : MIT-305

Time Allowed—3 Hours]　　　　[Maximum Marks—100

Note :— Attempt **five** questions, selecting at least **one** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. (a) What are the four building blocks of a Microcomputer system ? Discuss.　　　10

   (b) Illustrate the evolution of Intel microprocessors since 1972 according to their word length.　10

2. (a) Explain microarchitecture of the 8088/8086 Microprocessor in detail.　　　　15

   (b) What are the lengths of the 8086's/8088's address bus and data bus ?　　　　5

SECTION—B

3. (a) How is the memory of an 8086/8088 microcomputer organized from a hardware point of view ?　　　　15

   (b) In a maximum-mode 8088 microcomputer, what code is output on S_4S_3 when an Instruction-fetch bus cycle is in progress ?　　5

4. (a) Explain Minimum-Mode Memory Control Signals with respect to memory interface operation. 10

   (b) Explain Minimum-Mode Memory Read Bus Cycle of 8088 microprocessor. 10

SECTION—C

5. (a) Explain how an Isolated I/O Interface is implemented for minimum-mode 8086/8088 microcomputer systems. 10

   (b) Explain Input Bus Cycle of 8086/8088 microcomputer systems. 10

6. (a) Write in detail 8255A Programmable Peripheral Interface. 15

   (b) How is an 8255A configured if its control register contains 9BH ? 5

SECTION—D

7. (a) What do you mean by Interrupt ? What are its types ? Explain. 10

   (b) Explain Interrupt Vector Table of 8088/8086 Microcomputer. 10

8. (a) What are the five groups of interrupts supported on the 8088 and 8086 MPUs ? 10

   (b) At what address are CS_{50} and IP_{50} stored in memory ? 10