Exam. Code : 208603
Subject Code : 3710

M.Sc. Information Technology 3rd Semester
MICROPROCESSOR AND ITS APPLICATIONS
Paper–MIT–305

Time Allowed—3 Hours]   [Maximum Marks—100

Note :— Attempt any **five** questions. All questions carry equal marks.

1. (a) What are the four building blocks of a Microcomputer System ? Describe each.   10

    (b) How much ROM was provided in the original PC's processor board ? What was the maximum amount of RAM that could be implemented on this processor board ?   6

    (c) What are the standard data word lengths for which microprocessors have been developed ?   2

    (d) What was the first 4-bit microprocessor introduced by Intel Corporation ? Also name 8-bit, 16-bit and 32-bit microprocessors introduced.   2

2. (a) Discuss various kinds of Interfaces that are typically implemented in a microcomputer system.   10

    (b) Discuss the pipelined architecture of the 8088/8086 microprocessor.   10

3. (a) What does the unsigned word Integer $(1001)_{16}$ represent ?   4

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(b) Discuss General Purpose Data Registers of 8088 microprocessor and their functions. 12

(c) A signed number integer equals $FEFF_{16}$. What decimal number does it represent ? 4

4. (a) Describe the difference between minimum-mode 8088 system and maximum-mode 8088 system. 10

(b) Draw the block diagram of a minimum-mode configuration of 8088 and 8086 respectively. 10

5. (a) Explain maximum-mode memory control signals in detail. 10

(b) Explain Read bus cycle of 8-bit data in a maximum-mode 8086 based microcomputer system. 10

6. (a) What do you mean by I/O Data Transfer ? What is the range of byte addresses in the 8088's I/O address space ? 10

(b) Discuss the operation performed by the instruction IN AX, 1AH. 10

7. (a) Draw a block diagram of ROM. Discuss ROM interface in detail. 10

(b) Suppose the ROM has 15 address lines and eight data lines. How many bytes of information can be stored in the ROM ? What is the total storage capacity ? 10

8. Write short notes on :

(a) Programmable Peripheral Interface. 10

(b) Serial Communication Interface. 10