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MSCPH-522

Memory Devices and Microprocessors

M.Sc. Physics (MSCPH)

3rd Semester Examination, 2023 (June)

Time : 2 Hours]   **Max. Marks : 70**

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A
(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. What is microprocessor? What is the difference between a microprocessor and a microcomputer?

2. Explain with a circuit diagram the tri state TTL Gate. How can the tri- state circuit outputs be connected together to form a data bus so that each output can be switched into the bus wire.

3. How many categories memories can be classified? Give examples and distinguish between them.

4. Draw the pin diagram of 8086 microprocessor. Mention and explain the modes in which 8086 can operate.

5. What do you understand by language in computer ? Discuss about machine language, assembly language?

SECTION–B
(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.   (4×8=32)

1. Mention the address capability of 8086 up and also show its memory map.

2. In 8085 up show how demultiplexing of address/data bus is done and also show the availability of address/data during read/write cycles.

3. Write short note on Intn 8259 and 8255.

4. Write short note on Direct Memory Access (DMA).

5. What is a stack? Why stack is used in a program? What are the instructions related to stack operations?

6. Discuss code conversion from BCD to Binary and BCD to LED.

7. What is meant by 'addressing mode'? Mention the different addressing modes.

8. Draw the pin configuration and functional pin diagram of 8085 up.

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