A–1147

Total Pages : 3 **Roll No. .....**

BCA-EB

Microprocessor and its Applications

Examination, June 2025

Time : 2:00 Hrs. 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 answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section–A

Long Answer Type Questions 2×19=38

***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.

1. Explain the internal organization of a microcomputer with a neat diagram. Discuss the role of CPU, memory, and I/O ports.

2. Discuss the characteristics of memory. Differentiate between volatile and non-volatile memory with examples.

3. Draw and explain the internal architecture of 8085 microprocessor. Discuss the function of its key components

4. What is the function of Intel 8253 programmable timer ? Explain its operating modes and applications.

5. Explain the types of interrupts in 8085 microprocessors. How are vectored and non-vectored interrupts handled ?

Section–B

Short Answer Type Questions 4×8=32

***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.

1. Describe the evolution of Intel microprocessor family starting from 4004 to Itanium, with key specifications.

2. What is memory-mapped I/O ? Explain with diagrams and examples.

3. Compare different types of ROM: OTP ROM, UV EPROM, Flash, and EEPROM. Mention their advantages and applications.

4. What is an m-bit register ? Explain its working and construction using D flip-flops.

5. Classify the 8085 instruction set into groups. Explain with examples from each group.

6. Write an assembly language program in 8085 to find the largest number in an array. Explain the logic used.

7. Explain the different addressing modes used in 8085 with suitable instructions.

8. Discuss the use of different branching and machine control instructions in 8085 with examples.

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