

A-1146

Total Pages : 3

Roll No.

BCA -EB

Microprocessor and its Applications

Examination February, 2026

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.

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(1)

P.T.O.

1. Explain the evolution of Intel microprocessor family starting from 4004 to Pentium II. Analyse how changes in data bus width and transistor count impacted performance.
2. Discuss the architecture of a microcomputer with a labelled diagram. Explain the coordination among CPU, memory and I/O using buses.
3. Draw and explain the internal architecture of 8085. Analyse how the ALU and timing & control unit coordinate instruction execution.
4. Discuss the development of semiconductor memory. Explain how m-bit registers and decoder circuits form memory arrays.
5. Explain memory-mapped I/O and isolated I/O. Compare them analytically based on instruction requirements and address utilisation.

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. Differentiate between RAM, ROM, EPROM and EEPROM.
2. Explain memory read and write cycles with timing diagrams.
3. Discuss m-bit register with an example.
4. Explain the functions of accumulator and flag register in 8085.
5. Discuss various types of interrupts with example.
6. Explain the concept of tri-state buffers.
7. Explain direct and indirect addressing modes with examples.
8. Write a short note on programmable peripheral interface 8255.
