Enrollment No_____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER – V(NEW) REGULAR/ATKT EXAMINATION APRIL-2025

SUBJECT CODE: - CE 502N **SUBJECT NAME: - Microprocessor Architecture & Programming**

DATE: - 08-April-2025 **TIME: - 12:30 pm to 3:30 pm** **MARKS: -70 Marks**

Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are **compulsory**.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Assume suitable data wherever necessary.
5. Use of scientific calculator is permitted.

SECTION-I

Q-1 (A) Explain the basic architecture of the 8085 microprocessor. [05]

(B) Explain the difference between microprocessor and microcontroller. [05]

(C) Describe the different addressing modes in the 8085 microprocessor with examples. [05]

OR

(C) Explain the features of 8086 microprocessor. [05]

Q-2 (A) Explain bus organization of 8085 microprocessor. [05]

(B) Explain internal architecture of 8086 microprocessor. [05]

OR

Q-2(A) What is an interrupt? Explain hardware and software interrupts in the 8085 microprocessor. [05]

(B) Discuss the memory layout in the 8086/8088 microprocessor. How does it handle segmented memory? [05]

Q-3(A) Discuss the significance of stack operations in 8085 microprocessor. [05]

(B) Write an ALP in 8086 microprocessor to divide 2025H by 37H. [05]

OR

Q-3(A) Explain the concept of queue in 8086 microprocessor. [05]

(B) Explain difference between 8085 and 8086 microprocessors. [05]

SECTION-II

Q-4(A) Describe the role of memory in microprocessor-based systems and explain the differences between SRAM and DRAM. [05]

(B) What is cache memory? How does it improve the performance of a microprocessor system? [05]

(C) What are the advantages of the 80386 microprocessor in terms of Real Mode and Protected Mode operation? [05]

OR

(C) Draw only the block diagram of 80286 microprocessor. [05]

Q-5(A) Explain the working principle of the 8255 Programmable Peripheral Interface. [05]

(B) Explain the concept of Virtual 8086 Mode in the 80386 microprocessor. [05]

OR

Q-5(A) Describe the function of the 8254 Programmable Interval Timer/Counter in microprocessor systems. [05]

(B) Explain the features of 80486 microprocessor. [05]

Q-6(A) Discuss the features of Pentium microprocessor. [05]

(B) Explain the ARM architecture. [05]

OR

Q-6 (A) Explain type 0 to 4 software and hardware interrupts of 8086 microprocessor. [05]

(B) Explain the registers of ARM processor. [05]

Best of Luck