

CLASS: B-TECH
BRANCH: EEE

SEMESTER : IV
SESSION : SP/2023

SUBJECT: EE303 INTRO. TO MICROPROCESSOR & MICROCONTROLLERS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

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|--------|---|-----|---------------------|------------|
| Q.1(a) | Draw the pin diagram of 8086 microprocessor. Explain the significance of following pins in 8086:
✓(i) INTR ✓(ii) ALE ✓(iii) M/IO — | [5] | CO
CO-1,
CO-2 | BL
BL-1 |
| Q.1(b) | Explain the 8086 instructions having following mnemonics using examples
✓(i) DAA (ii) MUL (iii) MOVSB (iv) PUSH, ✓(v) JMP and JC. | [5] | CO-1,
CO-2 | BL-3 |
| Q.2(a) | List and explain with examples data addressing modes in 8086 microprocessor. | [5] | CO-2,
CO-3 | BL-2 |
| Q.2(b) | Write a program to add a series of 20 bytes stored in the memory from locations 30,000H to 30,019H. | [5] | CO-2,
CO-3 | BL-4 |
| Q.3(a) | Draw the architecture of programmable peripheral interface (PPI) IC-8255 and its modes of operation. | [5] | CO-3,
CO-4 | BL-2 |
| Q.3(b) | Explain the need of DMA. Explain the interfacing of 8257 DMA with 8086 microprocessor. | [5] | CO-3,
CO-4 | BL-3 |
| Q.4(a) | Elucidate timer modes of operation and timer register in 8051 microcontroller. | [5] | CO-4,
CO-5 | BL-4 |
| Q.4(b) | Describe the interrupt registers in 8051 microcontroller. | [5] | CO-4,
CO-5 | BL-2 |
| Q.5(a) | Explain the interfacing of LCD with 8051 microcontroller ? Write a program to display " B I T " in LCD screen. | [5] | CO-2,
CO-4 | BL-2 |
| Q.5(b) | Write a program of 8051 microcontroller to multiply two 8-bit numbers stored in external memory locations 2000 H and 2001 H. Store the results in memory locations 2010 H and 2011 H. | [5] | CO-2,
CO-4 | BL-4 |

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