

# Atal Bihari Vajpayee-Indian Institute of Information Technology & Management, Gwalior

## EE303: Microprocessor and Interfacing

Major Examination (Session 2024–25)

**Maximum Time: 3 Hours**

**Max Marks: 45**

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*Note: Attempt all questions. Neat diagrams must support your answers.*

1. (a) Draw the block diagram of 8085 and explain its functional units. (b) Explain the roles of instruction register and temporary register. (8 Marks)
2. (a) Write an assembly program to multiply two 8-bit numbers. (b) Explain indirect addressing mode with an example. (8 Marks)
3. (a) Explain the interfacing of 8085 with a 7-segment display. (b) Describe mode 1 of 8255 PPI. (7 Marks)
4. (a) Differentiate between maskable and non-maskable interrupts. (b) Explain the RST instructions of 8085. (7 Marks)
5. (a) Draw and explain the timing diagram for the execution of STA instruction. (b) What is the difference between opcode fetch and memory read cycles? (8 Marks)
6. Write short notes on any two: (i) 8251 USART (ii) DMA in 8085 (iii) Bus structure of 8085 (7 Marks)