6. Write the status of the flags when following instructions are executed

i) INR ii) NOPiii) CMP iv) JMP v) SBI

vi) MOV vii) PUSH viii) CALL ix) STC x) OUT 10x1=10

7. Write an assembly language program to perform addition and subtraction for two 16 bit numbers. 5+5=10

8. What are T-state and timing diagram? Draw the timing diagram of STA 8000H. 3+7=10

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B.Tech Even Semester Examination, May, 2025

Electronics & Communication Engineering

(4th Semester)

Course No: ECE-405

(Microprocessors & Microcontrollers)

Full Marks: 50

Pass Marks: 25

Time: 2 hours

Note:

1. Attempt any five questions.
2. Begin each answer in a new page
3. Answer parts of a question at a place
4. Assume reasonable data wherever required
5. The figure in the right margin indicates full marks for the question
6. All the mathematical symbols and abbreviations have their usual meanings.

1. What is a bus? Discuss about data bus, address bus and control bus of a microprocessor. What are their applications? 2+4+4=10

2. List the different types of instructions of 8085 with at least two examples. 10

3. What is 8255? Why is it called programmable peripheral interface? Write about the different ports of 8255 and their modes of operation. 2+2+6=10

4. a) How many interrupts are there in 8085? How an interrupt is enabled and disabled in 8085.

   b) Draw the pin diagram of 8051. 2+4+4=10

5. Write about different flags of 8086. 10