



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 5th Semester Examination, 2020, held in 2021

ELSACOR11T-ELECTRONICS (CC11)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.
All symbols are of usual significance.*

GROUP-A

1. **Answer any five questions from the following:** 2×5 = 10
- (a) What is the word size of an 8085 microprocessor?
 - (b) What is the function of the HLDA pin of 8085?
 - (c) How many T-states does it take to execute the 8085 instruction OUT 01H ?
 - (d) Explain the meaning of the following instructions - PCHL, XCHG.
 - (e) Register D contains a data FE H . What will be the effect on sign, carry and zero flags when INR D instruction is given twice?
 - (f) What is the role of stack when the microprocessor receives an interrupt request?
 - (g) Which flag of 8085 is not used in program transfer instructions?
 - (h) Why Tri-State Logic is so important in microprocessor systems?
 - (i) Name an instruction which can change the value of a carry flag without any mathematical or logical operation.

GROUP-B

- Answer any six questions from the following** 5×6 = 30
2. The accumulator of an 8085 microprocessor contains C5 H and the carry flag is set. What will be the content of accumulator and carry flag following each of the instructions given below? 1+2+2
- (a) XRA A
 - (b) ADI 84 H
 - (c) ANA A.
3. (a) What is the function of ALE signal? 2+3
- (b) Using a 74138 decoder IC , derive the memory and I/O read/write control signals

from the relevant 8085 pins.

4. (a) Write the function of a program counter. 2+3
(b) What happens to contents of the program counter when an 8085 encounters a CALL instruction?
5. Compare the operation of synchronous, asynchronous and interrupt-driven data transfer. How does the microprocessor control multiple interrupt condition? 5
6. Write an assembly language program to add two 16 bit, the sum may have a carry. Take data from specific memory locations and store the result in consecutive memory location. 5
7. Write an assembly language program to multiply to 8 bit numbers in 8085 using repeated addition method. 5
8. (a) Write the differences between memory mapped I/O and I/O mapped I/O. 5
(b) What are the instructions available for memory mapped I/O and I/O mapped I/O schemes?
9. Explain the interrupt scheme of 8085 with necessary diagram. 5
10. Draw the timing diagram of the instruction MVI A, 05H. 5
11. Write a short note on addressing modes of 8085. 5

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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