

2023

COMPUTER SCIENCE — HONOURS

Paper : CC-10

(Microprocessor and Its Applications)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer question no. 1 and any four questions from the rest.

1. Answer *any five* questions : 2×5
 - (a) What is the purpose of ALE?
 - (b) What are interrupts?
 - (c) What is the function of Program Counter?
 - (d) Why is READY terminal used in Microprocessor 8085?
 - (e) How many pins are used for data communication? Explain multiplexing.
 - (f) What is the function of HOLD?
 - (g) What are mnemonics?
 - (h) When is Auxiliary carry flag SET in microprocessor 8085?
2.
 - (a) Compare between software interrupts and hardware interrupts.
 - (b) Compare and elaborate the differences between opcode and operand.
 - (c) Explain the instruction LDAX B with proper illustrations. 5+3+2
3.
 - (a) Draw a suitable logical circuit diagram for generation of control signals in 8085 microprocessor.
 - (b) Differentiate between I/O mapped I/O and Memory mapped I/O with respect to the microprocessor 8085. 4+6
4.
 - (a) What type of data transfer techniques are used, when there is a mismatch in the speed of I/O devices interfaced with microprocessor 8085?
 - (b) What are the different types of JUMP instructions? Give examples. 6+4
5.
 - (a) Compare and contrast between general purpose registers and special purpose registers.
 - (b) What are the different types of addressing modes of 8085? 5+5

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6. (a) Explain the operation of POP and PUSH instructions with proper illustrations. 5+5
(b) What are the different flags in 8085? Explain each in brief with suitable illustrations.
7. (a) What is a sub-routine? What is a nested sub-routine? 4+6
(b) What is the significance of RST 5.5, RST 6.5 and RST 7.5 interrupts?
8. (a) What are the operations performed by the following instructions—
(i) LXI rp, data
(ii) DAA
(iii) XTHL
- (b) What is the purpose of TRAP? Is the priority of TRAP higher than HOLD? Justify your answer.
- (c) What are the instructions used to access data from the physical ports interfaced with microprocessor 8085 in I/O mapped I/O method? 6+2+2
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