

2022

COMPUTER SCIENCE — HONOURS

Paper : CC-10

(Microprocessor and its Application)

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 number 1* and *any four* from the rest.1. Answer *any five* questions :

2×5

- (a) What are the maximum address lines required if a memory of 16kbyte is connected to Microprocessor 8085? Justify your answer.
- (b) What is the purpose of HOLD pin in microprocessor 8085?
- (c) What is PSW?
- (d) Is PCHL similar to $JMP (XXXX)_H$ instruction with respect to microprocessor 8085? Justify your answer.
- (e) State the differences between RAL and RAR.
- (f) Does Microprocessor 8085 have any separate internal memory to store program codes and data/operands? Justify your answer.
- (g) How can we send data out of Microprocessor 8085 serially using SOD pin? Give examples.
- (h) Name a few special purpose registers of Intel 8085 microprocessor.

2. (a) Explain foldback memory with respect to microprocessor 8085 with a suitable example.

(b) What is an interrupt?

8+2

3. (a) Draw the timing diagram of the instruction $LDA E000_H$, assuming that the instruction is written across the memory locations $F000H$, $F001H$ and $F002H$.

(b) Explain the operation of PUSH PSW instruction.

7+3

4. (a) Explain what operation is performed by the execution of the following instructions DAA, DAD rp and POP rp.

(b) Classify 8085 instructions in various groups. Give examples.

6+4

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5. (a) Explain the process of de-multiplexing of Address/Data bus of Microprocessor 8085 with suitable diagram. 6+4
- (b) Explain the functions of zero flag and carry flag of 8085 microprocessor. 6+4
6. (a) Explain indirect register addressing in microprocessor 8085. Explain with suitable examples. 5+5
- (b) What are the significances of HLDA and ALE? 5+5
7. (a) Explain the generation of Control signals for Memory and I/O Read Write with the help of suitable example. 6+4
- (b) Explain the functions of Program counter and Stack Pointer. 6+4
8. (a) Explain the function of Programmable Peripheral Interface (PPI). 4+4+2
- (b) What are vectored interrupts with respect to 8085? Give examples.
- (c) What is the purpose of TRAP? Is the priority of TRAP greater than HOLD? Justify your answer. 4+4+2
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