

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.  
(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.  
(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.  
(b) Explain the functions of Program counter and Stack Pointer. 6+4
8. (a) Explain the function of Programmable Peripheral Interface (PPI).  
(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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