

[This question paper contains 4 printed pages]

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S. No. of Question Paper : 1567

Unique Paper Code : 222661

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Name of the Paper : Microprocessor (ELPT-606)

Name of the Course : B.Sc. Physical Science (Electronics)

Semester : VI

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any *Five* questions.

All questions carry equal marks.

(Begin each question on a new page of the answer sheet and

write all parts of a question together)

1. Attempt any *Five* questions of the following : 5×3=15

(a) What are the functions of sign, zero and carry flags in 8085 microprocessor ?

(b) Explain the instruction CMP B. Which flags are used in this instruction ?

P.T.O.

- (c) Compare the instructions MOV R, M and LDAX Rp.
- (d) Explain mode 1 of timer in 8155 PPI.
- (e) Explain the difference between a microprocessor and a microcontroller.
- (f) What is ALE ? Explain its role in 8085 microprocessor.
- (g) If the memory chip size is 2048×8 bits, how many chips are required to make 16 Kbytes of memory ?
2. (a) List various addressing modes available in 8085 microprocessor. Give examples. 5
- (b) Write an assembly language program for 8085 microprocessor to add 5CH and 31H. Store the sum in the memory location XX50H. 5
- (c) Draw the memory map of 256 bytes of memory starting with address 2000H. 5
3. (a) Give the programming model of 8085 microprocessor. 5

- (b) Define the following terms :
- (i) Stack pointer;
 - (ii) Program counter;
 - (iii) Stack memory;
 - (iv) Machine cycle;
 - (v) T-state. 5
- (c) What do you understand by an Opcode-fetch cycle ? List all the control and status signals asserted by the 8085 microprocessor during the cycle. 5
4. (a) What is an interrupt ? List them in order of priority. Distinguish between vectored and non-vectored interrupts. 5
- (b) Differentiate between memory mapped I/O and peripheral mapped I/O. 5
- (c) Explain RIM instruction in detail. 5
5. (a) Draw and explain the timing diagram of instruction LDA 3050H. 10
- (b) What is a subroutine ? Explain the instruction CALL 2050H. 5

6. (a) Discuss the Mode0, Mode1, Mode2 and BSR operating modes of 8255 PPI. 10
- (b) Explain the internal registers of 8259 PIC. 5
7. (a) What do you understand by IEEE bus standards ? Describe RS-232C bus standards in brief. 5
- (b) What are handshake signals ? 5
- (c) Mention the salient features of 8051 microcontroller with the help of a block diagram. 5
8. (a) Give a labelled pin-out diagram of 8086 microprocessor. 5
- (b) Give a brief account of various registers in 8086 microprocessor. 5
- (c) Write a short note on 8257 DMA. 5