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COMPUTER SCIENCE

(Major)

Paper : 5.4

**(Microprocessor and Assembly
Language Programming)**

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following questions as directed :

 1×6=6

 (a) ALE stands for _____.

 (Fill in the blank)

 (b) SP is a _____ bit register.

 (Fill in the blank)

(Turn Over)

(c) RST 6·5 is a non-maskable interrupt.

(State True or False)

(d) The Intel 8279 is a

(i) DMA controller

(ii) keyboard/display controller

(iii) programmable interval timer

(iv) None of the above

(Choose the correct option)

(e) Which interrupt has the highest priority?

(i) INTR

(ii) TRAP

(iii) RST 6·5

(iv) RST 5·5

(Choose the correct option)

(f) _____ instruction is used to add 16-bit data.

(Fill in the blank)

2. Answer the following questions :   2×5=10

(a) What is the difference between INR and INX instructions?

(b) List the 16-bit registers of 8085 microprocessor.

(c) What is meant by "opcode format"?

(d) What is subroutine?

(e) What is vectored interrupt?

3. Answer any *four* of the following questions :

5×4=20

(a) Draw and explain timing diagram of memory read cycle.

(b) What are the flags available in 8085 microprocessor? Briefly explain.

(c) Define stack and explain stack related instructions.

(d) Briefly explain the conditional jump instructions of 8085 microprocessor.

(e) Explain the process of time delay calculation in 8085.

(f) Describe the following instructions :

RLC, RRC, RAL, RAR

4. Answer any *three* of the following questions :

8×3=24

(a) Explain the pin diagram of 8085.

(4)

(b) Write a 8085 assembly language program to SORT an array of 10 bytes in ascending order.

(c) Explain the process of interfacing LED or seven-segment display.

(d) Draw the block diagram and explain the basic functions of 8237 or 8255 A.

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