

2020

ELECTRONICS — GENERAL

Fourth Paper

(Group - A)

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.*

SET - 1

Answer **question no. 1** and **any four** questions from the rest, taking at least **one** from each of the **Unit - I** and **Unit - II**.

1. Answer briefly **any five** of the following questions : 2×5
- (a) Name the flags of flag register.
 - (b) Explain the function of XRA A instruction.
 - (c) What is the value of frequency of the clock used in 8085A?
 - (d) What are the difference between compiler and interpreter?
 - (e) What is the role of USB port in PC?
 - (f) What are meant by primary memory and secondary memory?
 - (g) What do CD and LCD stand for?
 - (h) What is the role of '`clrscr()`' in C programming?

Unit - I

(8085 Microprocessor)

2. (a) What are different status signals in 8085 μ p and state their function and tabulate their values during opcode fetch memory read and memory write? 5+3+2
- (b) What is the role of ALE?
 - (c) Why is the data bus bidirectional?
3. (a) Write a program in Assembly Language for 8085 μ p to perform the following functions :
- (i) Load the number 21H in register B and 15H in register C.
 - (ii) Subtract these two numbers.
 - (iii) Display the answer in PORT01H.

Please Turn Over

- (b) The content of the accumulator is F3H and content of register C is B7H. Write the flag register status after adding both numbers. 6+4

4. (a) What is the difference between MVI 05H and LXI F000H instructions?

- (b) Explain the meaning of the following instructions :

(i) INR A (ii) ADD A (iii) JZ (iv) XCH G.

2+(2×4)

5. (a) Write the function of Program Counter (PC) in a μ p.

- (b) What is bus? Write the function of Control bus.

(c) What are Machine cycle and Instruction cycle?

2+4+(2+2)

Unit - II

(Computer Programming)

6. (a) What is flash memory?

- (b) Suppose you have to buy a PC for your laboratory with good configurations. What parts will you order and with what specifications? Explain with reason. 2+8

7. (a) How integer and floating type variables are defined in C programming?

- (b) What is the use of `pow()` in C programming?

(c) Which instructions are used to construct loop in C program?

(d) Rectify the syntax in the following C statement :

(i) `integer X;`

(ii) `scan (The number is : % f, X") :`

(assume X is an integer number)

2+2+2+(2+2)

8. (a) How one, two and three dimensional arrays can be defined in C programming?

- (b) Write a program in C to get the sum of following series up to N terms. N must be read from keyboard.

$$S = 1^1 + 2^2 + 3^3 + 4^4 + \dots$$

(c) When `<math.h>` is used in C programming?

3+5+2
