

17431

11718

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.

**Marks**

1. (a) **Attempt any SIX of the following :** **12**
- (i) List any four features of  $\mu\text{P}$  8085.
  - (ii) Describe functions of following pins of  $\mu\text{P}$  8086 :
    - (a)  $\text{MN} / \overline{\text{MX}}$
    - (b) ALE
  - (iii) List any two addressing modes of 8086 with example.
  - (iv) Define flow chart and algorithm.
  - (v) List maskable and non-maskable interrupt of 8085.
  - (vi) List any four features of 8086.
  - (vii) List directives used for procedure.

(viii) Write assembly language instructions of 8086 to

- (a) multiply 4H by 5H
- (b) Rotate content of AX by 4 bit towards left.

**(b) Attempt any TWO of the following :** **8**

(i) Describe the functions of following directives :

(i) DD (ii) DB (iii) DUP (iv) EQU

(ii) Describe Linker and Debugger.

(iii) Describe CALL and RFT instructions.

**2. Attempt any FOUR of following :** **16**

(a) Draw functional block diagram of 8085.

(b) Describe register organization of 8086.

(c) Describe concept of memory segmentation of 8086.

(d) Draw labelled flag register of 8085 and explain functions of all flags.

(e) Describe any two string operation instruction of 8086 with syntax & one example of each.

(f) With the help of diagram, describe physical memory address generation of 8086.

**3. Attempt any FOUR of following :** **16**

(a) Explain DAA instruction with suitable example.

(b) State all control signal generated by  $S_0, S_1, S_2$  with their function by 8086.

(c) Draw and explain interface of 8284 clock generator with 8086.

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(d) What will be the content of register BX after execution of instruction ?

MOV BX 2050H

MOV CL 05H

SHL BX CL

(e) Write ALP to divide two 16 bit numbers.

(f) Describe concept of pipelining in 8086.

4. Attempt any FOUR of following :

16

(a) With example, describe XLAT and AAA instructions.

(b) Describe any two bit manipulation instructions.

(c) Write an ALP to find largest number from array of 10 numbers.

(d) Write an ALP to find length of string.

(e) Describe model of assembly language programming.

(f) Explain re-entrant procedure with diagram.

5. Attempt any FOUR of following :

16

(a) Write ALP to subtract two 16 bit numbers.

(b) Write ALP to count number of '0' in 16 bit number stored in AX register.

(c) Write ALP using procedure to add two BCD numbers.

(d) Explain following instructions :

(a) INC (b) LOOP

(e) Compare FAR and NEAR procedure.

(f) Describe MACRO with syntax.

P.T.O.

6. Attempt any TWO of the following :

16

- (a) With diagram, explain maximum mode 8086 configuration.
  - (b) Write ALP and draw flow chart to perform block transfer without using string instruction.
  - (c) Write ALP for sum of series of 10 numbers using procedure. Also draw flow chart for the same.
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