

- Instructions :** (1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Preferably, write the answers in sequential order.

1. Attempt any **FIVE** of the following : [10]
- (a) State the function of ALE and Ready pin of 8086.
 - (b) What is stack? State its significance.
 - (c) What is the use of REP in string related instruction?
 - (d) State the function of following pins of 8085 microprocessor :
 - (i) INTR
 - (ii) $\overline{\text{INTA}}$
 - (e) List any four features of 8086 microprocessor.
 - (f) Give the steps in physical address generation in 8086 microprocessor.
 - (g) State the function of following pins of 8085 microprocessor.
 - (i) Ready
 - (ii) Trap
 - (h) What is pipelining? How it is implemented in 8086 microprocessor.
 - (i) State any two differences between NEAR and FAR procedure.
2. Attempt any **THREE** of the following : [12]
- (a) Give the difference between Inter segment and Intra segment CALL.
 - (b) Differentiate between Re-entrant & Recursive procedure.
 - (c) Explain the following assembler directives.
 - (i) ORG
 - (ii) EQU
 - (iii) DD
 - (iv) ASSUME
 - (d) What is MACRO? Explain MACRO with suitable example.
3. Attempt any **THREE** of the following : [12]
- (a) Describe Memory segmentation in 8086 and list its advantages.
 - (b) Write an ALP to perform 32 bit by 16-bit division of unsigned numbers.
 - (c) List and explain any four process control instruction with their function.
 - (d) State all the control signal generated by S_0 , S_1 , S_2 with their function by 8086 microprocessor.
4. Attempt any **THREE** of the following : [12]
- (a) Draw and explain the flag register of 8086.
 - (b) Write an ALP to find the smallest number in the Array.
 - (c) Explain the following instruction of 8086 :
 - (i) XLAT
 - (ii) XCHG
 - (d) Write an ALP to count number of zero's in BL register.
 - (e) Write an assembly language program to find largest number from array of 10 numbers.
5. Attempt any **TWO** of the following : [12]
- (a) Describe how an assembly language program is developed and debugged using system tools such as editors, assemblers, linkers and debuggers.
 - (b) Write an ALP to compute, whether the number in BL register is even or odd.
 - (c) Explain the directives used for defining MACRO. Give an example.

6. Attempt any **TWO** of the following : [12]
- (a) With examples, describe any four String instructions in 8086 assembly language.
 - (b) Write an ALP for concatenation of two strings. Draw flowchart and assume suitable data.
 - (c) Write an ALP to transfer 10 bytes of data from one memory location to another. Also draw the flow chart for the same.

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Paper Discussion Schedule for: S.Y. Diploma Sem.-IV

Date	Day	Timing	Centre
21 April 2019	Sunday	11 a.m. to 1 p.m.	Borivali
21 April 2019	Sunday	9 a.m. to 11 p.m.	Thane