



HDZ-003-1153004

Seat No. _____

M. Sc. (Electronics) (Sem. III) (CBCS) Examination

November / December – 2017

Paper - XII : 8086 Microprocessor

Faculty Code : 003

Subject Code : 1153004

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Answer the following questions in brief : (any seven) 14

- (1) Write an assembly program to count length of a string stored at 2000H onwards.
- (2) Draw the schematic diagram of 8282 address buffer and explain its working in brief.
- (3) Explain XCHG instructions.
- (4) Explain instruction ROR and RCR with suitable example.
- (5) What is memory segmentation? Explain in brief.
- (6) Explain importance of status pins S0, S1 and S2 of 8086.
- (7) Enlist addressing modes available in 8086.
- (8) Write an assembly program to add two numbers of 32-bit length. The numbers are stored at 2000H and 2004H onwards. Store the result at 2010H onwards.
- (9) Enlist 8086 interrupt types in their decreasing priority.
- (10) Write a brief note on dedicated, reserved and general use memory.

2 Attempt any two of the following questions : (Each 7 Marks) 14

- (1) Enlist maximum mode signals and explain each in not more than 5 lines.
- (2) Give a detailed account on interrupt vector table and interrupt instructions.
- (3) Draw the internal architecture of 8086. Explain in detail function of all the blocks.

- 3** Answer the following questions :
- (1) Write an assembly program to find average of 20 8-bit numbers stored at location 2000H onwards. Store the result at location 2020H. **5**
 - (2) Explain working of 8288 bus controller IC with necessary diagrams. **5**
 - (3) Explain all addressing modes for control transfer instructions with suitable examples. **4**

OR

- 3** Answer the following questions :
- (1) Write an assembly subroutine to calculate factorial (n!), where n is an 8-bit number stored at 2000H. Store the result to be returned in AX. **5**
 - (2) Write a detailed note on minimum mode IO write bus-cycle. **5**
 - (3) Write a detailed note on assembly program development tools. **4**

- 4** Answer the following questions :
- (1) Give a detailed account on string instructions. **5**
 - (2) Write an assembly program generate a Fibonacci series of n terms at 2000H onwards. **5**
 - (3) Write a short note on interrupt acknowledge bus cycle. **4**

- 5** Answer any two of the following questions : (Each 7 Marks) **14**
- (1) With neat diagram explain working of 8284 clock generator IC.
 - (2) Explain interfacing of 10 devices in minimum and maximum modes. Draw the interfacing diagram for interfacing an 8-bit input and 16-bit output ports.
 - (3) Enlist all logical instructions and explain.
 - (4) Write an assembly program to interchange contents of two blocks, each of 20 bytes stored at locations 2000H and 3000H respectively.