

Roll No.

OLE-24230

B. Tech. 5th Semester (CS & IT)

Examination – April, 2021

MICROPROCESSING AND INTERFACING

Paper : EE-309-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) Explain pipelining in 8086.
- (b) Addressing mode of 8086.
- (c) Explain timing and control signal of 8086.
- (d) What do you understand by word length ?
- (e) Assume (CL) = 03 H and (A.X) = 0846 H.
Determine the new contents of AX and carry flag after execution of SAR AX,CL.
- (f) State the function of direction flag in 8086.

- (g) Explain HLT instruction of 8086.
- (h) What is the difference between compare and test operation in 8086 ?

SECTION – A

- 2. (a) What is microprocessor ? What IS the difference between microprocessor and microcomputer. 10
- (b) Two 8 bit numbers are stored in the location 2201 H and 2202 H. Multiply them and store the result in the location 2203 H and 2204 H. (LS Byte at 2203 and MS Byte at 2204 H). Program to be written in 8085 assembly language. 10
- 3. (a) Write a program to subtract two 8 bit numbers stored in memory location B00AH and B00BH store the result in memory location E00CH and E00DH in 8085. 10
- (b) With suitable examples explain 8085 instruction set in detail. 10

SECTION – B

- 4. (a) Draw and explain the block diagram of 8086 microprocessor. Explain the functions of each block with detail. 10

- (b) Explain the data, branch and stack addressing modes of 8086 microprocessor. 10
5. (a) Explain with the help of suitable example, how physical address is computed for the instruction/op code lying in code segment in 8086. 10
- (b) Explain various addressing modes of 8086. 10

SECTION – C

6. (a) Explain the assembler directives of 8086 microprocessor. Also write a program using assembler directive to find average of two numbers. 10
- (b) What is memory segmentation ? Explain its advantages. 5
- (c) How does 8086 generate a 20-bit physical address with example ? 5
7. (a) Write a program in assembly language of 8086 to compare two strings and print appropriate message i. e. "strings are same" or "strings are different". 10
- (b) The CS=548EH and IP=5ACDH. Find the corresponding absolute physical address. 10

SECTION – D

8. (a) Explain the initialization command words of 8259. 7
- (b) Explain the control register and status register of 8257. 7
- (c) Explain the working of 8237 DMA controller. 6
9. (a) Interface 8255 with 8085 microprocessor. Draw the interfacing diagram and address mapping. 10
- (b) Explain the block diagram and Pin diagram of 8255 programmable peripheral interface. Also discuss interfacing of keyboards. 10
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