Printed Pages: 4 **NEE - 504**

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 2289788 **Roll No.** | | | | | | | | | | |

B.TECH.

Regular Theory Examination (Odd Sem - V), 2016-17

MICROPROCESSOR & ITS APPLICATIONS

Time : 3 Hours *Max. Marks : 100*

SECTION - A

1. Attempt all questions from this section. Each question carries equal marks. (10×2=20)

a) What are general purposes registers in 8086 microprocessor?

b) What is stack memory? Explain

c) What is flag? Discuss in brief.

d) How many types of interrupts in 8086? Give its significance.

e) What is SIM and RIM instruction? Explain with example.

f) What is meant by cross-complier?

g) What is the position of the stack Pointer after the POP instruction? Discuss it.

h) Why there are two ground pins in 8086? Explain.

i) Logic calculations are done in which type of registers? Describe write neat diagram Explain.

j) Which Segment is used to store interrupt and subroutine return address registers?

SECTION - B

2. Attempt any three questions from this section. Each question carries equal marks. (3×10=30)

a) i) Explain the addressing capability of 8085 and 8085 microprocessor. How 20 bit address of memory is addressed.

ii) Explain the function of externally initiated signals of 8085.

b) Explain the flags of 8085 microprocessor. Give the flag status when following additions are performed.

i) 51H+A9H

ii) 2EH+5AH

iii) 76H+A4H

c) Differentiate between data addressing and branch addressing in 8086. Explain the branch addressing modes with example.

d) Draw and explain the internal architecture of 8259 interrupt controller. Also describe its initialization command words.

e) Draw and explain the internal architecture of 8255 parallel I/O peripheral device. Also describe the bits of control word.

SECTION - C

Note : Attempt all questions from this section. Each question carries equal marks. (10×5=50)

3. Attempt any one part

a) Explain instruction formats of 8086. Also explain the function of special bits used in instruction format

b) Explain the architecture of 8085 microprocessor in brief, with the help of neat diagram"

4. Attempt any one part.

a) Explain the data addressing modes of 8085 with example.

b) Develop an assembly language programme for 8085 to add 5 numbers of 8 bits, whose sum is of more than 8 bits. The numbers are stored from 8501 to 8505. The result is to be stored in 8601 and 8602.

5. Attempt any one part.

a) Explain the following instructions in 8086 with example.

i) LDS ii) SBB

iii) MUL iv) IDIV

v) ADC vi) CMPS

vii) TEST viii) XOR

ix) RCR

b) Develop a programme to add two numbers of 8 byte long whose result is more than 8 byte. The first number is stored from 7501 to 7508 and second number is stored from 8501 to 8508 and result is to be stored from 9501 to 8509.

6. Attempt any one part

a) Explain the interrupts sequence and types of interrupts in 8086.

b) Draw explain the memory and I/O read cycle of 8085.

7. Attempt any one part

a) Interface an 8255 with 8086 to work as an I/O port. Initialize port A as output port. Port B as input port and port C as output port. The address of port A. Port B, Port C and CWR is 0760, 0762, 0764 and 0766 respectively. Write a programme to sense switch positions (10110101) connected at port B. The sensed pattern is to be displayed on port A, to which 8 LEDs are connected, while port C lower displays number of on switches out of the total eight switches.

b) Discuss the mode of operation of 8253 programme, internal times with its control format.