(Following Paper ID and Numbers to be filled in your Answer books)

Paper ID: | | | | | | |

Roll No: | | | | | | | | | | |

B.Tech

EXAMINATION, 2015-16

Subject: Microprocessors **Code: NEC 503**

[Time: 3 Hours] **[Total Marks: 100]**

SECTION-A

Q.1 Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2 x 10=20)

(a) **Explain the role of control signals of 8085 microprocessor.**
(b) **Calculate the number of memory chips needed to design 128K-Byte memory if the memory chip size is 2048 x 1.**
(c) **Define segmentation in 8086 microprocessor.**
(d) **If code segment contains 5000H and instruction pointer contains 2400H, what will be the physical address?**
(e) **Explain the instruction format of 8086 microprocessor.**
(f) **Differentiate between synchronous and asynchronous modes of transmission.**
(g) **Compare various EIA standards.**
(h) **What are DOS & BIOS Interrupts?**
(i) **WAP using 8086 to generate a square wave using DAC.**
(j) **Classify the different modes of PPI.**

SECTION-B

Note: Attempt any 5 questions from this section. (10 x 5=50)

Q.2 **Explain the register organization of 8085.**
Q.3 **(a) What are different ways in which you can access instruction in 8085? Explain with the help of example.**

(b) Draw the timing diagram for IN instruction using 8085.
Q.4 **List out the signals of 8086 which have different meaning in minimum and maximum mode.**
Q.5 **Give a diagram to interface seven segment display with 8255. Also WAP for this interfacing using 8086.**
Q.6 **What do you mean by ISR? Give the interrupt vector table and also explain various interrupts of 8086.**

Q.7 **Draw and explain write cycle timing diagram in maximum mode of 8086 microprocessor.**

Q.8 **Explain the following assembler directives: PROC, MACRO, DB, ASSUME and EQU.**

Q.9 **WAP using 8086 to generate delay using 8 bit register as well as using 16 bit register.**

SECTION-C

Note: Attempt any 2 questions from this section. (15 x 2=30)

Q.10 **Explain the block diagram of 8251. Also explain its register formats.**

Q.11 **Design an 8086 based system in minimum mode with 64KB EPROM and 64KB RAM. Draw the complete schematic of the design indicating the address map.**

Q.12 **Explain different modes of Programmable interval timer.**