K.D.K. COLLEGE OF ENGINEERING NANDANVAN, NAGPUR-09

DEPARTMENT OF ELECTRONICS ENGINEERING

SESSION 2017-18

Sub: -Microprocessor & Microcontroller **Assignment No-1** Sem.:- V Sem.

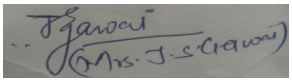
Last Date: - 25.08.17

Bloom's Taxonomy Levels – 1. Remember 2. Understand 3. Apply 4. Analyze 5. Evaluate 6. Create

Question no 1, 2, 3 are based on CO502.1 -Understand the internal organization of Microprocessor 8086 and write an assembly language programs using its Instruction set.

Question no 4, 5, 6 are based on CO502.2- Interface different peripheral IC's with 8086 microprocessor by employing interfacing concepts.

Que. No	Question	BTL level
Q.1	Write a program using 8086 to find the ASCI code of a no. stored in memory location 2010H (EA). Save the result code in 20A0H (EA).	**L3**
Q.2	Interface 8-bit Digital to Analog converter to 8086 microprocessor and write a program to generate a Triangular waveform at the output of DAC.	**L3**
Q.3	Draw the memory subsystem connection so as to connect 4K RAM and 4K ROM with 8086 processor. Starting from 10000H onwards sequentially placing RAM on the top.	**L2**
Q.4	Explain the physical address formation when Effective Address is in (BP), (SP), (SI), (DI), (IP) with suitable example considering registers to store Base Address.	**L1**
Q.5	Find the no. of negative data words in a block. The length of the block is at 2000:2240H. The block starts at 2000:2241H. Place the no. of negative data words at 2000:2260H.	**L2**
Q.6	Interface one 7-segment display in common mode configuration. Write a programme to display 0 to F with a delay of 1ms. Assume 7 segment codes are stored in a look up table starting at 3000:2240H.	**L3**



Mrs. J. S. Gawai

Subject Teacher

K.D.K. COLLEGE OF ENGINEERING NANDANVAN, NAGPUR-09

DEPARTMENT OF ELECTRONICS ENGINEERING

SESSION 2017-18

Sub: -Microprocessor & Microcontroller **Assignment No-II** Sem.:- V Sem.

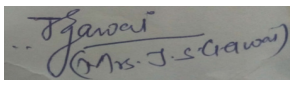
Last Date: - 31.08.17

Bloom's Taxonomy Levels – 1. Remember 2. Understand 3. Apply 4. Analyze 5. Evaluate 6. Create

Question no 1, 2, 3 are based on CO502.3 - Design an assembly language program to interface the various peripheral ICs with microprocessor 8086.

Question no 4, 5, 6 are based on CO502.4- Interface math co-processor 8087 with 8086 and write its assembly language program

Que. No	Question	BTL level
Q.1	Explain the disadvantages of fully nested mode and explain how it is overcome in 8259.	L1
Q.2	Explain the reading operation of IRR, ISR, IMR in 8259 with suitable instruction.	L1
Q.3	Interface 8253 at port addresses 00H, 02H, 06H, 08H, and write a programme to interrupt the µP 8086 on NMI after 10 ms, if PCLK = 2 MHz. (Peripheral clock frequency)	L3
Q.4	What are the different operating modes of 8253 Timer? Explain them in short. Also draw the interface of 8253 Timer with 8086 microprocessor.	L1
Q.5	Explain and draw the cascade connection of 8259 PIC with 8086 processor indicating one master and three salve 8259 PICs.	L2
Q.6	Draw and explain interfacing of 8253 with 8086 in maximum mode of an address 0040H for counter and write an ALP to generate square wave of period 1ms. The 8086 and 8253 run of 6 MHz and 1.5	L3



Mrs. J. S. Gawai

Subject Teacher

K.D.K. COLLEGE OF ENGINEERING NANDANVAN, NAGPUR-09

DEPARTMENT OF ELECTRONICS ENGINEERING

SESSION 2017-18

Sub: -Microprocessor & Microcontroller **Assignment No-III** Sem.:- V Sem.

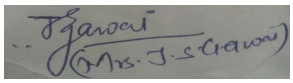
Last Date: - 19.09.17

Bloom's Taxonomy Levels – 1. Remember 2. Understand 3. Apply 4. Analyze 5. Evaluate 6. Create

Question no 1, 2, 3 are based on CO502.5 - Demonstrate the internal organization of microcontroller 8051 and explain the concept of interrupt and its uses.

Question no 4, 5, 6 are based on CO502.6- Design an assembly language program to interface the various peripheral ICs with microcontroller 8051.

Que. No	Question	BTL level
Q.1	Draw and explain the interfacing of 8251 USART with 8086 microprocessor.	L2
Q.2	Explain keyboard matrix mode and sensor matrix mode of 8279.	L1
Q.3	Explain the interfacing of 8 ON/OFF switches to 8086 and WAP to recognize which switch is closed, if closed place the switch closure in Register B.	L3
Q.4	Explain various data types supported by 8087. Give the interfacing of 8087 with 8086. Explain how they communicate with each other. Discuss any FOUR instruction of 8087.	L3
Q.5	Draw and explain an architecture of microcontroller 8051.	L2
Q.6	Draw and explain the memory organization of microcontroller-8051.	L2



Mrs. J. S. Gawai

Subject Teacher