Enrollment No 226291

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER – V(NEW) EXAMINATION OCTOBER -2023

SUBJECT CODE: - CE 502N **SUBJECT NAME:- Microprocessor Architecture & Programming**

DATE: -28-October-2023 **TIME: - 12:00 pm to 3:00 pm** **MARKS:-70**

Marks

Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are **compulsory**.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Assume suitable data wherever necessary.
5. Use of scientific calculator is permitted.

SECTION-I

Q-1 (A) Give comparison between microprocessor and microcontroller. **[05]**

(B) Explain X1, SOD, RD', TRAP and CLK(OUT) pins of 8085 microprocessor. **[05]**

(C) Explain the programming model of 8085 microprocessor. **[05]**

OR

(C) Draw only the internal block diagram of 8086 microprocessor. [05]

Q-2 (A) Explain any five addressing modes supported by 8086 with suitable examples. [05]

(B) Explain operation of stack in 8085 microprocessor. [05]

OR

Q-2(A) Explain 5 interrupts of 8085 microprocessor and also the role of INTA'. [05]

(B) Explain the flag register of 8086 microprocessor. [05]

Q-3(A) Explain how demultiplexing of address/data bus takes place with respect to 8085 microprocessor. [05]

(B) Write an ALP in 8086 microprocessor to multiply 2210H by 72H. [05]

OR

Q-3(A) Explain different instruction sizes in 8085 microprocessors. [05]

(B) Explain the concept of queue in 8086 microprocessors. [05]

SECTION-II

Q-4(A) Explain type 0 to 4 software and hardware interrupts of 8086 microprocessor. [05]

(B) Explain Direct Memory Access (DMA) with a diagram. [05]

(C) Explain the memory segmentation of 8086 microprocessor. [05]

OR

(C) Explain difference between 8085 and 8086 microprocessors. [05]

Q-5(A) Explain the operation of 8255 PPI chip. [05]

(B) Draw only the block diagram of 80286 microprocessor. [05]

OR

Q-5(A) Explain the modes of 80386 microprocessor. [05]

(B) Draw and explain 8259 Programmable Interrupt Controller. [05]

Q-6(A) Explain the features of 80486 microprocessor. [05]

(B) Write a short note on the architecture of ARM processor. [05]

OR

Q-6 (A) Write a short note on cache memory. [05]

(B) Explain the features of Pentium microprocessor. [05]

Best of Luck

225097

KADI SARVA VISHWAVIDYALAYA
B.E.SEMESTER 5TH EXAMINATION NOVEMBER 2022

SUBJECT CODE:CE502-N
SUBJECT NAME : MICROPROCESSOR ARCHITECTURE AND PROGRAMMING
DATE: 04-11-2022 TIME: 10.00 AM TO 01.00 PM TOTAL MARKS: 70

Instructions:
1. Answer Each Section in Separate Answer sheet.
2. Use of Scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly, the options you attempted along with its respective question number.
5. Use the last page of supplementary for rough work.

SECTION-1

Q.1 (A) Comparison between microprocessor and microcontroller. [05]

(B) Draw and Explain BIU Section of 8086 microprocessor. [05]

(C) Write a Short note on Cache Memory. [05]

OR

(C) Calculate the effective address of the memory location pointed by the SS register. The value of Stack Segment (SS) Register is 9685H and the value of differentoffsets is as follows:SI: 0502H, BX: 2025H , IP: 0580H , DI: 4247H, SP: 1234H [05]

Q.2 (A) Draw and Explain Flag Register of 8086 microprocessor. [05]

(B) Define Interrupt? Explain Hardware interrupts of 8085 microprocessor. [05]

OR

Q.2 (A) Explain Demultiplexing of AD0 to AD7 using 74LS373 Latch. [05]

(B) Explain Following Pins of 8086 microprocessor (Attempt Any Five). [05]

1) Ready 2) ALE 3) MN/$\overline{MX}$ 4)Vcc 5) HOLD 6) $\overline{BHE}$

Q-3 (A) Explain Immediate,Register and Indirect Addressing Modes of 8086 microprocessor with suitable example. [05]

(B) Write an ALP to transfer block of data from one memory location to another memory location. Length of array is 7(Seven). [05]

OR

Q-3 (A) Write a short note on: ARM architecture. [05]

(B) List the features of 80286 microprocessor. [05]

SECTION-2

Q.4 (A) Answer the Following Questions, **[05]**

1) The highest priority interrupt in 8085 is _____.

A) RST 7.5 B) TRAP C) INTR D) INT 0

2) What is the length of Stack Pointer in 8085?

A) 8 Bit B) 4 Bit C) 12 Bit D) 16 Bit

3) Maximum size of any segment in 8086 is _____.

A) 8KByte B) 16KByte C) 64KByte D) 32Kbyte

4) During real addressing mode, the 80386 can address up to _____.

A) 1MByte B) 4GByte C) 64KByte D) 128Kbyte

5) An 8086 has ____ byte queue of pipelining?

A) 5 B) 4 C) 6 D) 12

(B) List the software interrupt of 8086. Explain the Type 0 to Type 4 in detail. **[05]**

(C) Draw only Architecture of 8085 Microprocessor. **[05]**

OR

(C) Explain Difference Between Minimum and Maximum mode in 8086 microprocessor. **[05]**

Q.5 (A) Explain Memory Segmentation in 8086 microprocessor. **[05]**

(B) Explain Following Instructions of 8086 microprocessor. **[05]**

1) ADC CL,BL 2) DIV BL 3) NEG AL 4) RCL 5) MOV AX,0FFFFH

OR

Q.5 (A) Draw and Explain Block Diagram of 8255 (Programmable Peripheral Interface). **[05]**

(B) Explain Protected Mode of 80386 microprocessor. **[05]**

Q-6 (A) Draw and Explain Block Diagram of 8259 (Programmable Interrupt Controller). **[05]**

(B) Explain Pentium Processor in detail. **[05]**

OR

Q-6 (A) Draw and Explain Block Diagram of 8253/54 (Programmable Interval Timer/counter). **[05]**

(B) List Arithmetic Instruction of 8086 microprocessor. Write aALP to Add two 8 bit Number (55H and AAH). **[05]**

Enrollment No_____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER – V(NEW) REGULAR/ATKT EXAMINATION APRIL-2022

SUBJECT CODE: - CE 502N **SUBJECT NAME:- Microprocessor Architecture & Programming**

DATE: -11-April-2022 **TIME: - 12:30 pm to 3:30 pm** **MARKS:-70 Marks**

Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are **compulsory.**
3. Indicate clearly, the options you attempted along with its respective question number.
4. Assume suitable data wherever necessary.
5. Use of scientific calculator is permitted.

SECTION-I

Q-1 (A)	Draw and explain programming model of 8085 microprocessor.	[05]
(B)	Explain the difference between microprocessor and microcontroller.	[05]
(C)	Explain the following pins of 8085 microprocessor: (1) ALE (2) READY (3) INTR (4) RD' (5) TRAP.	[05]
	OR	
(C)	Explain the features of 8086 microprocessor.	[05]
Q-2 (A)	Define Bus. Explain different buses available in 8085 microprocessor.	[05]
(B)	Explain internal architecture of 8086 microprocessor.	[05]
	OR	
Q-2(A)	Explain the steps or process of INTR interrupt in 8085 microprocessor.	[05]
(B)	Explain any 5 addressing modes of 8086 microprocessor with suitable examples.	[05]
Q-3(A)	Explain stack operation in 8085 microprocessor.	[05]
(B)	Write an assembly language programme in 8086 to perform addition of two 16 bit numbers.	[05]
	OR	
Q-3(A)	Explain CALL and RTE instructions in 8085 microprocessor.	[05]
(B)	Explain the concept of queue in 8086 microprocessor.	[05]

SECTION-II

Q-4(A) Describe operation of cache memory with a diagram. [05]

(B) Explain DMA with a diagram. [05]

(C) Explain the operating modes of 80286 microprocessor. [05]

OR

(C) Explain the internal architecture 80286 microprocessor. [05]

Q-5(A) Draw and explain the 8254 timer/counter. [05]

(B) Explain the internal architecture of 80386 microprocessor . [05]

OR

Q-5(A) Draw and explain the 8259A. [05]

(B) Explain the features of 80486 microprocessor. [05]

Q-6(A) Explain the features of Pentium microprocessor. [05]

(B) Write short note on architecture of ARM processor. [05]

OR

Q-6 (A) Explain virtual 8086 mode of 80386 microprocessor. [05]

(B) Explain the registers of ARM processor. [05]

Best of Luck

Enrollment No_____

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER – V(NEW) REGULAR EXAMINATION NOVEMBER -2021

SUBJECT CODE: - CE 502N **SUBJECT NAME:- Microprocessor Architecture & Programming**

DATE: -17-Nov.-2021 **TIME: - 10:00 am to 1:00 pm** **MARKS:-70 Marks**

Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are **compulsory**.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Assume suitable data wherever necessary.
5. Use of scientific calculator is permitted.

SECTION-I

Q-1 (A)	Explain internal architecture of 8085 microprocessor.	[05]
(B)	Differentiate between microprocessor and microcontroller.	[05]
(C)	Explain the following pins of 8086 microprocessor: (1) NMI (2) HOLD (3) ALE (4) WR' (5) M/IO'.	[05]
	OR	
(C)	Explain how address/data lines AD0-AD7 are de-multiplexed in 8085 microprocessor.	[05]
Q-2 (A)	Explain the addressing modes of 8085 microprocessor with suitable examples.	[05]
(B)	Explain the flag register of 8086 microprocessor.	[05]
	OR	
Q-2(A)	Explain the interrupts of 8085 microprocessor.	[05]
(B)	Explain memory segmentation in 8086 microprocessor and how 20 bits physical address is calculated.	[05]
Q-3(A)	Explain subroutine and use of CALL and RET instruction in 8085 microprocessor.	[05]
(B)	Write ALP in 8086 to display your name on screen.	[05]
	OR	
Q-3(A)	Define stack and explain use of PUSH and POP instructions in 8085 microprocessor.	[05]
(B)	List interrupts of 8086 microprocessor and explain the sequence of events taken by 8086 when an interrupt occurs.	[05]

SECTION-II

Q-4(A) Explain Direct Memory Access. [05]

(B) Differentiate between SRAM and DRAM. [05]

(C) Write short note on cache memory. [05]

OR

(C) Explain internal architecture of 80386 microprocessor. [05]

Q-5(A) Draw block diagram and explain the 8255 Programmable Peripheral Interface. [05]

(B) Explain the operating modes of 80386 microprocessor . [05]

OR

Q-5(A) Draw block diagram and explain the 8259 Programmable Interrupt Controller. [05]

(B) Write short note on the features of 80286 microprocessor. [05]

Q-6(A) Explain the features of 80486 microprocessor. [05]

(B) Write short note on architecture of ARM processor. [05]

OR

Q-6 (A) List the processing units of Pentium microprocessor. [05]

(B) Describe briefly ARM processor operating modes. [05]

Best of Luck