QUESTION BANK

Course Title: MicroControllers **Course code: 23EC501**

Regulation: NR23

Course Objectives:

1. To familiarize the architecture of microprocessors and Microcontroller
2. To provide the knowledge about interfacing techniques of bus & memory.
3. To understand the concepts of ARM architecture.
4. To study the basic concepts of Advanced ARM processors,

Course Outcomes (CO's)

1. Understands the internal architecture, organization and assembly language programming of 8086 processors.
2. Understands the internal architecture, organization and assembly language programming of 8051/controllers

3 Understands the interfacing techniques to 8086 and 8051 based systems.

4. Understands the internal architecture of ARM processors
5. Understands the basic concepts of advanced ARM processors.

UNIT I

8086 ARCHITECTURE

S.No	Questions	BT	CO	PO
	Part – A (Short Answer Questions)			
1	Define Microprocessor and mention the power supply & clock frequency of 8086	L1	Co1	PO1, PO2, PO4
2	List and explain the general purpose registers of 8086 microprocessor. Also explain its special functions.	L2	Co1	PO1, PO2, PO4
3	Llustrate the following Arithmetic instructions of 8086 microprocessor with details. i) AAA ii) IMUL iii) DIV iv) CWD	L3	Co1	PO1, PO2, PO4
4	Explain the Concept of Segmentation with base address and Offset address	L3	Co1	PO1, PO2, PO4

5		Define interrupt and explain the different interrupts presented in 8086 Micro processor.	L2	Co1	PO1, PO2, PO4
6		Define addressing mode. Write the names of 8086 addressing modes	L1	Co1	PO1, PO2, PO4
7		Define Each and Every flag in flag register	L1	Co1	PO1, PO2, PO4
8		Define assembler directive. Give any two examples.	L1	Co1	PO1, PO2, PO4
9		List out the interrupts of 8086	L2	Co1	PO1, PO2, PO4
10		Describe ALE, MN/MX ,RQ/GT Pinof 8086	L2	Co1	PO1, PO2, PO4
Part – B (Long Answer Questions)					
11	a)	Explain the architecture of 8086 with neat diagram	L1	Co1	PO1, PO2, PO4
	b)	Define addressing mode and explain the different addressing modes presented in 8086 Microprocessor with examples.	L2	Co1	PO1, PO2, PO4
12	a)	Explain the shift and Rotate instruction set of 8086 Microprocessor along with examples	L2	Co1	PO1, PO2, PO4
	b)	Develop an assembly language program to sort the given values in ascending order.	L2	Co1	PO1, PO2, PO4
13	a)	Explain data transfer instructions of 8086 with examples. Define assembler directive and explain different assembler directives used in 8086Microprocessor in detail.	L2	Co1	PO1, PO2, PO4
	b)	Describe the 8086 microprocessor pin-diagram.	L1	Co1	PO1, PO2, PO4
14	a)	.Enumerate the structure of physical memory organization of 8086 with neat diagram.	L3	Co1	PO1, PO2, PO4
	b)	Draw the interrupt cycle of 8086 Microprocessor and explain the nested interrupt concept in detail.	L1	Co1	PO1, PO2, PO4
15	a)	Explain minimum mode control signals of 8086	L1	Co1	PO1, PO2, PO4
	b)	Enumerate the functions of the following pins. i) TEST ii) Hold iii) QS0 & QS1 iv) S3, S4	L4	Co 1	PO1, PO2, PO4
16	a)	Differentiate jump & loop instructions.	L4	Co 1	PO1, PO2, PO4
	b)	Write the logical instructions available in 8086.	L4	Co 1	PO1, PO2, PO4