



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
(AUTONOMOUS)**

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QUESTION BANK (DESCRIPTIVE)

Subject with Code : COMPUTER ORGANIZATION(20MC9101)

Branch : MCA

Year & Sem : I-Year& I-Sem

Regulation : R20

UNIT – I

**NUMBER SYSTEMS AND COMPUTER ARITHMETIC, COMBINATIONAL AND
SEQUENTIAL**

1	Convert the following: (a) $(41)_{10}=(?)_2$ (b) $(0.6875)_{10}=(?)_2$ (c) $(10110001101011)_2=(?)_{16}$ (d) $(B65F)_{16}=(?)_{10}$ (e) $(306.D)_{16}=(?)_2$	[L3][CO1]	12M
2	Explain the following: i) Decoders ii) Encoders	[L2][CO1]	12M
3	Draw the H/W Flowchart and H/W Algorithm for Multiplication for positive numbers with a suitable example.	[L3][CO1]	12M
4	Build the H/W Flowchart for Division with suitable example	[L3][CO1]	12M
5	Explain about arithmetic operations on floating point numbers with its neat sketch?	[L5][CO1]	12M
6	Build the H/W Flowchart and Algorithm for Booth Multiplication with an example	[L2][CO1]	12M
7	a) Discuss about logical operations?	[L6][CO1]	06M
	b) Explain about error detecting codes?	[L5][CO1]	06M
8	Using K- map simplify the Boolean function $F(w, x, y, z)=\sum(0,1,2,4,6,8,9,12,13,14)$.	[L4][CO1]	12M
9	Discuss about the Multiplexers and Adders?	[L6][CO1]	12M
10	Define and explain Boolean algebra and simplification of Boolean expressions.	[L1][CO1]	12M

UNIT – II

MEMORY ORGANIZATION & MICRO PROGRAMMED CONTROL

1	What is memory hierarchy? Write about Main memory.	[L1][CO2]	12M
2	Explain about RAM & ROM chips of main memory with neat sketch.	[L2][CO2]	12M
3	Discuss about the cache memory with different types of mappings?	[L6][CO1]	12M
4	Explain about the applications of Logic Micro Operations?	[L5][CO1]	12M
5	Clearly explain Hardwired Control with the help of a neat diagram.	[L2][CO1]	12M
6	Define and explain Micro Programmed Control with Micro Program Example.	[L1][CO1]	12M
7	Analyze about Address Sequencing with neat diagram?	[L4][CO1]	12M
8	Discuss in detail about design of control unit?	[L6][CO1]	12M
9	Discuss about Logic Micro Operations with neat representations?	[L6][CO1]	12M
10	List out the types of Shift Register Operations?	[L4][CO1]	12M

UNIT – III

BASIC CPU ORGANIZATION & INTEL 8086 ASSEMBLY LANGUAGE

INSTRUCTIONS

1	a)	Explain about assembler directives?	[L2][CO3]	06M
	b)	Explain about Data transfer instructions?	[L2][CO3]	06M
2		What is input-output instructions and what are the types in it, Explain in detail.	[L1][CO3]	12M
3		Discuss about Arithmetic instructions in detail with neat diagram?	[L6][CO3]	12M
4		Clearly explain logical instructions in detail with example.	[L5][CO3]	12M
5		Briefly explain about shift instructions with example.	[L2][CO3]	12M
6	a)	Identify what are Data Transfer Instructions?	[L3][CO3]	06M

	b)	List and explain Program Control Instructions?	[L4][CO3]	06M
7		Explain about rotate instructions and its types in detail?	[L5][CO3]	12M
8		Discuss about conditional and unconditional transfer instructions with example.	[L6][CO3]	12M
9	a)	What is interrupt? Explain about simultaneous request handling by the processor.	[L1][CO3]	06M
	b)	Explain about process control instructions?	[L2][CO3]	06M
10		Explain about Programming with assembly language instructions with example.	[L2][CO3]	12M

UNIT -IV

INPUT OUTPUT ORGANIZATION & DMA

1	a)	Explain about Peripheral devices?	[L2][CO4]	06M
	b)	Discuss about Input-output interface.	[L6][CO4]	06M
2	a)	Compare memory mapped I/O and isolated I/O?	[L4][CO4]	06M
	b)	Compare I/O and Memory bus?	[L4][CO4]	06M
3		Explain about I/O Bus and interface modules?	[L5][CO4]	12M
4		What is DMA? Draw the block diagram for DMA controller and explain about DMA transfer in a computer.	[L1][CO4]	12M
5		List out I/O Interfaces and explain about them.	[L4][CO4]	12M
6		Clearly explain about modes of transfer and its types?	[L2][CO4]	12M
7		Briefly explain about Priority interrupts and its types?	[L5][CO4]	12M
8		Explain about Input output processor?	[L2][CO4]	12M
9		Discuss the following. a) Programmed I/O b) Interrupt-initiated I/O	[L6][CO4]	12M
10		Explain the following. a) Daisy chaining b) Parallel priority	[L5][CO4]	12M

UNIT –V

PIPELINE, VECTOR PROCESSING AND MULTI PROCESSORS

1	a)	Explain about Parallel Processing and its Types?	[L2][CO5]	06M
	b)	Explain the concept of Pipelining with clear example with neat sketch?	[L2][CO5]	06M
2		Explain briefly about Arithmetic pipeline with neat diagram.	[L2][CO5]	12M
3		What are the major difficulties that cause the instruction pipeline to deviate from its normal operations? Explain.	[L2][CO5]	12M
4	a)	Explain briefly about the characteristics of multiprocessors?	[L2][CO5]	06M
	b)	Explain about inter processor arbitration?	[L2][CO5]	06M
5		Explain about Interconnection Structures in detail.	[L2][CO5]	12M
6		Explain about Inter Processor Arbitration with neat sketch.	[L2][CO5]	12M
7	a)	Explain about vector processing?	[L2][CO5]	06M
	b)	Explain about Array processors?	[L2][CO5]	06M
8		Explain about Multiprocessor and its classification in detail.	[L2][CO5]	12M
9		Explain about Inter Process Communication & Synchronization in detail.	[L2][CO5]	12M
10		Explain the following.	[L2][CO5]	12M
	a)	Cache Coherence		
	b)	Shared Memory Multiprocessors		

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