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. $(1011001)_2=(?)_{10}$ b. $(160)_{10}=(?)_2$ c. $(2980)_{10}=(?)_8$ d. $(10110001101011)_2=(?)_{16}$ e. $(3971)_{10}=(?)_{16}$ f. $(306.D)_{16}=(?)_2$	[L3][CO1]	12M
2	Build the Flow chart for Division with neat sketch and explain with suitable example.	[L3][CO1]	12M
3	a) Build the Flow chart for multiplication with suitable example. b) Examine the signed and unsigned numbers for positive numbers with a suitable example.	[L3][CO1] [L4][CO1]	06M 06M
4	a) Define and explain Boolean algebra in detail. b) Evaluate the simplification of Boolean expressions.	[L1][CO1] [L4][CO1]	06M 06M
5	Explain about logical operation with its neat logic gates?	[L2][CO1]	12M
6	a) Discuss about Gray code in detail. b) Explain about error detecting codes.	[L3][CO1] [L5][CO1]	06M 06M
7	Using K- map simplify the Boolean function a)$F(w, x, y, z)=\sum(0,1,2,4,6,8,9,12,13,14)$. b)$F(a,b,c,d)= \sum(1,3,5,6,7,9,10,11,15)$	[L4][CO1]	12M
8	a) Illustrate the Encoder in detail with Truth Table. b)Illustrate the Decoder in detail with Truth table.	[L2][CO1] [L2][CO1]	06M 06M
9	a)Discuss about the Multiplexers with Logic gate. b)Explain briefly about Adders with its Logic gate and Truth Table.	[L6][CO1] [L2][CO1]	06M 06M
10	Explain about various Flip-Flops with Logic gates in details.	[L2][CO1]	12M

UNIT – II

MEMORY ORGANIZATION & MICRO PROGRAMMED CONTROL

1	a) What is memory hierarchy? b) Write short note on Main memory.	[L1][CO2] [L1][CO2]	06M 06M
2	Explain about RAM & ROM chips of main memory with neat sketch.	[L2][CO2]	12M
3	a) Discuss about the cache memory in detail. b) Differentiate the types of mappings?	[L6][CO2] [L3][CO2]	06M 06M
4	Explain about the applications of Logic Micro Operations?	[L5][CO2]	12M
5	Clearly explain Hardwired Control with the help of a neat diagram.	[L2][CO2]	12M
6	Define and explain Micro Programmed Control with Micro Program Example.	[L1][CO2]	12M
7	Analyze about Address Sequencing with neat diagram?	[L4][CO2]	12M
8	Discuss in detail about design of control unit?	[L6][CO2]	12M
9	Discuss about Logic Micro Operations with neat representations?	[L6][CO2]	12M
10	List out the types of Shift Register Operations?	[L4][CO2]	12M

UNIT – III

BASIC CPU ORGANIZATION & INTEL 8086 ASSEMBLY LANGUAGE INSTRUCTIONS

1	a) Explain about assembler directives. b) Explain about Data transfer instructions.	[L2][CO3] [L2][CO3]	06M 06M
2	a) What is input-output instructions b) what are the types in it, Explain in detail.	[L1][CO3] [L1][CO3]	06M 06M
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? b) List and explain Program Control Instructions?	[L3][CO3] [L4][CO3]	06M 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. b) Explain about process control instructions in detail.	[L1][CO3] [L2][CO3]	06M 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. b) Discuss about Input-output interface.	[L2][CO4] [L6][CO4]	06M 06M
2	a) Compare memory mapped I/O and isolated I/O. b) Compare I/O and Memory bus.	[L4][CO4] [L4][CO4]	06M 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 it types?	[L2][CO4]	12M
7	Briefly explain about Priority interrupts and it types?	[L5][CO4]	12M
8	Explain about Input output processor.	[L2][CO4]	12M
9	a) Discuss the Programmed I/O in detail. b) Explain about Interrupt-initiated I/O in detail.	[L6][CO4] [L2][CO4]	06M 06M
10	a) Explain about Daisy chaining in detail. b) Explain about Parallel priority in detail.	[L5][CO4] [L5][CO4]	06M 06M

UNIT –V

PIPELINE, VECTOR PROCESSING AND MULTI PROCESSORS

1	a) Explain about Parallel Processing and its Types? b) Design the concept of Pipelining with clear example with neat sketch?	[L2][CO5] [L3][CO5]	06M 06M
2	Describe briefly about Arithmetic pipeline with neat diagram.	[L1][CO5]	12M
3	What are the major difficulties that cause the instruction pipeline to deviate from its normal operations? Explain.	[L1][CO5]	12M
4	a) Explain briefly about the characteristics of multiprocessors. b) Explain about inter processor arbitration.	[L2][CO5] [L2][CO5]	06M 06M
5	Explain about Interconnection Structures in detail.	[L2][CO5]	12M
6	Analyze briefly about Inter Processor Arbitration with neat sketch.	[L5][CO5]	12M
7	a) Explain about vector processing in detail. b) Explain about Array processors in detail.	[L2][CO5] [L2][CO5]	06M 06M
8	Build the Multiprocessor and its classification in detail.	[L3][CO5]	12M
9	Discriminate about Inter Process Communication and Synchronization in detail.	[L4][CO5]	12M
10	a) Discuss and show the Cache Coherence in detail. b) Explain about the Shared Memory Multiprocessors in detail.	[L1][CO5] [L2][CO5]	06M 06M

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