[As per Cl	COMPUTER OF	RGANIZATION		
(Effect	tive from the acad	it System (CBCS) schem demic year 2017 -2018)	e]	
Subject Code	SEMEST	ER - III		
\$	17CS34	IA Marks	1	
Number of Lecture Hours/Week	04	Exam Marks	40	
Total Number of Lecture Hours	Zam IV		60	60
	CREDIT	Exam Hours	03	
Module -1	CREDIT	5 – 04		
module -1				T
				Teaching
Basic Structure of Computers: Basic Processor Clock, Basic Performance E	C Operational Co			Hours
Processor Clock, Basic Performance E Instructions and Programs: Memory Lo	Equation Clock D	oncepts, Bus Structures,	Performance -	10Hours
ILISU UCIONS AND Programs, Many	. ,	are, i citormance Meagnre	ment Machine	
mouncilon Semiencing Addagasi		out, memory operations.	Instructions and	
Operations, Stacks and Queues, Sub Instructions	routines, Addition	nal Instructions Engaling	ut and Output	
Module -2	. v. 10	_iou deficies, Encoun	ig of Machine	
Input/Output Organization: Accessing I Disabling Interrupts, Handling Multiple	/O Devices I-t-			
Disabling Interrupts, Handling Multiple	Devices Control	upts - Interrupt Hardware	, Enabling and	10 Hours
Disabling Interrupts, Handling Multiple Memory Access, Buses Interface Circuit	s. Standard I/O In	torse Requests, Exc	eptions, Direct	
Module _ 3	, and a confine	terraces – PCI Bus, SCSI E	Bus, USB.	
		eriaces – PCI Bus, SCSI I	Bus, USB.	4.5
Memory System: Basic Concerts Sant		echaecs – PCI Bus, SCSI I	Bus, USB.	
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories - M.	conductor RAM N	echaecs – PCI Bus, SCSI I	Bus, USB.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secor	conductor RAM N	echaecs – PCI Bus, SCSI I	Bus, USB.	10 Hours
Memory System: Basic Concerts Sant	conductor RAM N	echaecs – PCI Bus, SCSI I	Bus, USB.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4	conductor RAM Napping Functions, adary Storage.	Memories, Read Only Men Replacement Algorithms	mories, Speed, , Performance	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4	conductor RAM Mapping Functions, adary Storage.	Memories, Read Only Mer Replacement Algorithms	mories, Speed, , Performance	
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operator Memory, Design of Fast Address Addr	conductor RAM Mapping Functions, adary Storage.	Memories, Read Only Memories, Replacement Algorithms	mories, Speed, , Performance	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Integral	conductor RAM Mapping Functions, adary Storage.	Memories, Read Only Memories, Replacement Algorithms	mories, Speed, , Performance	
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4	conductor RAM Mapping Functions, adary Storage.	Memories, Read Only Memories, Replacement Algorithms	mories, Speed, , Performance	
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5	conductor RAM Mapping Functions, adary Storage. tions and Characte Multiplication of Property of Prop	Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open	mories, Speed, , Performance tion of Signed med Operand erations.	
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Sasic Processing Unit: Some Forest	conductor RAM Mapping Functions, adary Storage. tions and Characte Multiplication of er Division, Floating	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Tasic Processing Unit: Some Fundame Multiple Bus Organization, Handwilled	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of er Division, Floating the concepts, 1	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Proposition of a Complete Execution of a Complete Proposition of a Complete Proposition Pr	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Sasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Comments	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of Er Division, Floating the Concepts, 1 and Concepts, 1 and Control, Mic	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Positive Numbers And Open Positi	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Tasic Processing Unit: Some Fundamental Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for the Size of Size of Systems, Processor chips for the Size of Size of Systems, Processor chips for the Size of	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of er Division, Floating the Control, Michael Control, Michael Systems: Basic	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Positive Numbers And Open Positi	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Tasic Processing Unit: Some Fundame Multiple Bus Organization, Handwilled	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of er Division, Floating the Control, Michael Control, Michael Systems: Basic	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Positive Numbers And Open Positi	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Fasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess	conductor RAM Napping Functions, adary Storage. tions and Character Multiplication of the Division, Floating the Concepts, I add Control, Micer Systems: Basic rembedded applicars.	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms Pers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Concepts of pipelining, ications, Simple Microcol	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Tasic Processing Unit: Some Fundamental Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess	conductor RAM Mapping Functions, adary Storage. tions and Characte Multiplication of Expression, Floating ental Concepts, I ad Control, Micer Systems: Basic rembedded applicors.	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Execution of a Complet ro programmed Control Concepts of pipelining, ications, Simple Microcol	mories, Speed, , Performance tion of Signed med Operand erations.	10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Fasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess for the fact of the Systems of the Explain the basic organization of the Systems of the Explain the basic organization of the Size of Systems of the Systems	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of Er Division, Floating ental Concepts, I ad Control, Micer Systems: Basic rembedded applicars.	Memories, Read Only Memories, Read Only Memories, Read Only Memories, Replacement Algorithms Pers, Addition and Subtract Positive Numbers, Signg-point Numbers and Open Programmed Control Concepts of pipelining, ications, Simple Microcombe able to:	mories, Speed, , Performance tion of Signed med Operand erations. e Instruction, l. Pipelining, Examples of ontroller, The	10 Hours 10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Sasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess outcomes: After studying this couple of Explain the basic organization of a Demonstrate functioning of different contractions.	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of Experimental Concepts, I and Control, Micer Systems: Basic rembedded applacers. The computer system of the computer systems are the computer systems.	Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Operation of a Complete ro programmed Control Concepts of pipelining, ications, Simple Microcombe able to:	mories, Speed, , Performance tion of Signed med Operand erations. e Instruction, l. Pipelining, Examples of ontroller, The	10 Hours 10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Sasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess outcomes: After studying this couple of Explain the basic organization of a Demonstrate functioning of different contractions.	conductor RAM Napping Functions, adary Storage. tions and Characte Multiplication of Experimental Concepts, I and Control, Micer Systems: Basic rembedded applacers. The computer system of the computer systems are the computer systems.	Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Operation of a Complete ro programmed Control Concepts of pipelining, ications, Simple Microcombe able to:	mories, Speed, , Performance tion of Signed med Operand erations. e Instruction, l. Pipelining, Examples of ontroller, The	10 Hours 10 Hours
Memory System: Basic Concepts, Semi Size, and Cost, Cache Memories – Ma Considerations, Virtual Memories, Secon Module-4 Arithmetic: Numbers, Arithmetic Operation of Fast Adders, Multiplication, Fast Multiplication, Integer Module-5 Fasic Processing Unit: Some Fundame Multiple Bus Organization, Hard-wire mbedded Systems and Large Computer mbedded Systems, Processor chips for ructure of General-Purpose Multiprocess for the fact of the Systems of the Explain the basic organization of the Systems of the Explain the basic organization of the Size of Systems of the Systems	conductor RAM Napping Functions, adary Storage. tions and Character Multiplication of the Division, Floating the Control, Micer Systems: Basic or embedded applications. The Computer system and computer systems are sub-systems, suitero programmed in the computer of the	Memories, Read Only Memories, Replacement Algorithms ers, Addition and Subtract Positive Numbers, Signg-point Numbers and Operation of a Complete ro programmed Control Concepts of pipelining, ications, Simple Microcombe able to:	mories, Speed, , Performance tion of Signed med Operand erations. e Instruction, l. Pipelining, Examples of ontroller, The	10 Hours 10 Hours

Question paper pattern:

The question paper will have ten questions.

There will be 2 questions from each module.

Each question will have questions covering all the topics under a module.

The students will have to answer 5 full questions, selecting one full question from each module.

Text Books:

1. Carl Hamacher, Zvonko Vranesic, Safwat Zaky: Computer Organization, 5th Edition, Tata McGraw Hill, 2002. (Listed topics only from Chapters 1, 2, 4, 5, 6, 7, 8, 9 and 12)

Reference Books:

1. William Stallings: Computer Organization & Architecture, 9th Edition, Pearson, 2015.

Dept. Of Computer Science & Engineering
Alva's Institute of Eng. Analogy

Mijar, MOODBIDRI - 574 225