KHENTAWAS, FARRUKHNAGAR, GURGAON, HR

Department:Computer Science & Technology

Academic Session: (MAY- AUG 2021)

Lesson Plan with Assignment questions

Subject with code:Computer Organization & Architecture (PCC-CSE-204G)

Name of Faculty with designation :Ms. Sameeksha Kukreti (Assistant Professor)

Month	Date & Day	Sem-Class	Unit	Topic/Chapter covered	Write Lecture Wise Questions	Remarks
	LEC 1	4th sem CSE I		Introduction: What is computer architecture ,why to study it and basics of digital that forms the base to study the subject. And review of the previously studied topics	Basic differene between computer architecture and computer organization	
	LEC 2	4th sem CSE I		Logic Gates, Boolean Algebra	Design all gates using nand and nor gate	
	LEC 3	4th sem CSE I		Data Types, Complements, Fixed-Point Representation	1) In 16-bit 2's complement representation, the decimal number −28 is? 2)The representation of the value of a 16-bit unsigned integer X in hexadecimal number system is BCA9. The representation of the value of X in octal number system is?	
	LEC 4	4th sem CSE I		Conversion of Fractions, Floating-Point Representation	1)What is the binary value 0.011010 in decimal ? 2)What is 0.687510 in binary ?	
	LEC 5	4th sem CSE I		Gray codes, Decimal codes	1)Convert the Gray code 1011 to binary. 2)The binary number 11101011000111010 can be	
	LEC 6	4th sem CSE I		Alphanumeric codes, Error Detection Codes.	Numericals	
	LEC 7	4th sem CSE I		Register Transfer Language, Register Transfer	1)Explain basic symbol of RTL 2)Discuss register transfer microoperations	
	LEC 8	4th sem CSE I		Bus and Memory Transfers	Numericals	
	LEC 9	4th sem CSE I		Arithmetic Microoperations, Logic Microoperations	Numericals	
	LEC 10	4th sem CSE I		Shift Microoperations, Arithmetic Logic Shift Unit.	**Numericals**	
	LEC 11	4th sem CSE I		O.S, HLL, Structured organization: CPU, CACHE, MM Secondary MM, I/O, MIPS, MFLOPS	Derivation of MIPS Derivation of MFLOPS	
	LEC 12	4th sem CSE I		CLASS TEST		
	LEC 13	4th sem CSE I		CPU Architecture types: accumulator, register	Explain CPU Architecture	
	LEC 14	4th sem CSE I		General Register Organization		

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	LEC 15	4th sem CSE I		Stack organization & memory register	Explain stack method	
	LEC 16	4th sem CSE I		Detailed data path of a typical register based CPU	Explain detailed data path of various register	
	LEC 17	4th sem CSE I		Instruction Cycle Fetch, Decode, Execute	Draw Timing and control diagram Draw flowchart of Instruction cycle	
	LEC 18	4th sem CSE I		Design of basic computer	Draw flowchart of basic computer	
	LEC 19	4th sem CSE I		Complete Computer Description	Draw flowchart of Complete computer	
	LEC 20	4th sem CSE I		Implementation of Control Unit, Enhancing of performance with pipeline	How control unit is implemented.Explain the concept of pipelining	
	LEC 21	4th sem CSE I		Addressing Modes	Addressing modes with eg	
	LEC 22	4th sem CSE I		Instruction Format: 3 address, 2 address, I address and zero address instruction	Difference between 3 address, 2 address, I address and zero address instruction	
	LEC 23	4th sem CSE I		RISC & CISC	Difference between RISC & CISC	
	LEC 24	4th sem CSE I		Operations in the instruction set: Arithmatic and Logical data transfer , control flow, Language of m/c, simulation using MSAM	Diff bet. Auto increment or auto decrement. Mode	
	LEC 25	4th sem CSE I		The need for locality of reference and memory hierarchy	Explain memory hierarchy?Wneed for locality of reference?	
	LEC 26	4th sem CSE I		CLASS TEST		
	LEC 27	4th sem CSE I		Memory hierarchy in practice: Cache, Primary & Sec. memory.Memory parameters: Access time, cycle time, cost/bit	What is associative memory and in which category it falls.	
	LEC 28	4th sem CSE I		Memory expansion, cache memory mapping	Explain cache memory mapping.Explain associative & direct mapped cache organization	
	LEC 29	4th sem CSE I		Goals of parallelism, exploitation of concurrency, throughput enhancement, Amdahl's law	Explain Goals of parallelism? Explain Amdahl's law?	
	LEC 30	4th sem CSE I		Instruction level parallelism, processor level parallelism Instruction codes, computer register	Difference between Instruction level parallelism, processor level parallelism	
	LEC 31	4th sem CSE I		Pipelining -Arithmetic & Instruction		
	LEC 32	4th sem CSE I		Computer instruction, timing and control, types of instruction	Need for instruction cycle. Explian types of instruction?	
	LEC 33	4th sem CSE I		Basics of logic design, accumulator logic, control memory, address sequencing	Explain various addressing sequencing? Explain the logic to design accumulator	
	LEC 34	4th sem CSE I		I/O deviceinterface, I/O transfers–program controlled, interrupt driven	Write a short note on DMA. Difference between Privileged and Non-Privileged	
	LEC 35	4th sem CSE I		Direct Memory Access		

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	LEC 36	4th sem CSE I		Instruction level parallelism.	Explain instruction level parallelism	
	LEC 37	4th sem CSE I		Instruction Formats ,Types of instruction	Explain various Instruction Formats and different Types of instruction	
	LEC 38	4th sem CSE I		Types of interrupts	Explain various types of interrupts	
	LEC 39	4th sem CSE I		Discussion of important question		
	LEC 40	4th sem CSE I		CLASS TEST		
	LEC 41	4th sem CSE I		CLASS TEST		