LESSON PLAN

Subject Name: COMPUTER ORGANIZATION AND ARCHITECTURE
Subject Code : 13CS3008
Class / Semester: III B.Tech I Semester

Branch: ECE
Academic Year: 2017-

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology
		Unit-1		
1.	12.06.2017	**Introduction:** Basics of computer and its applications.	1	CR
2.	14.06.2017	Fundamental concepts of design methodologies;	1	CR
3.	16.06.2017	Basic organization of computer.	1	CR
4.	17.06.2017	Computer types, functional unit and its importance.	1	CR
5.	19.06.2017	Basic operational concepts,	1	CR
6.	21.06.2017	Types of Bus structures, software, performance measurements.	1	CR
7.	23.06.2017	Explanation and examples of Multiprocessors and multi computers.	1	CR
8.	24.06.2017	Data representation: fixed point representation with some examples floating point representation. Problems and solutions	1	CR
9.	28.06.2017	Data representation: floating point representation with some examples	1	CR
10.	30.06.2017	Problems and solutions	1	CR
		Unit-2		
11.	01.07.2017	Computer Arithmetic: Explanation of Addition and subtraction algorithms	2	CR
12.	10.07.2017	Problems and Solutions	2	CR
13.	12.07.2017	Multiplication algorithms and its explanation	2	CR
14.	14.07.2017	Division algorithms and its explanation	2	CR
15.	15.07.2017	Problems and Solutions	2	CR
16.	17.07.2017	Examples on Addition, Subtraction, Multiplication and Division	2	CR CR
17.	19.07.2017	Fixed and floating – point arithmetic operations with examples	2	CR
18.	24.07.2017	Decimal arithmetic unit and decimal arithmetic operations	2	CR
19.	26.07.2017	Problems and Solutions	2	CR
20.	28.07.2017	Problems and Solutions	2	CR
		Unit-3		
21.	29.07.2017	Register Organization, Machine Instruction set: Register transfer language	3	CR
22	31.07.2017	Register transfer bus and memory transfers	3	CR
23.	02.08.2017	Arithmetic micro-operations	3	CR
24.	04.08.2017	Logic micro operations	3	CR
25.	05.08.2017	Shift micro operations	3	CR
26.	07.08.2017	Arithmetic logic shift unit-Explanation	3	CR
27.	09.08.2017	Instruction codes-Examples	3	CR
28.	11.08.2017	General register Organization, Control word	3	CR
29.	12.08.2017	Computer instructions: Instruction Format and Instruction cycle	3	CR
30.	14.08.2017	Addressing Modes with Examples	3	CR
31.	16.08.2017	Processor organization, RISC and CISC characteristics	3	CR

		Unit-4			
32	18.08.2017	Memory System: Memory hierarchy, main memory-Explanation	4	CR	
33	19.08.2017	Auxiliary memory, Associative memory-Explanation	4	CR	
34	21.08.2017	Hardware organization, Match logic, Read and Write operations	4	CR	
35	23.08.2017	Cache memory, Associative and direct mapping concepts	4	CR	
36	26.08.2017	Cache initialization and writing into cache	4	CR	
37.	28.08.2017	Virtual memory concept and its importance	4	CR	
38.	04.09.2017	Memory management hardware, memory protection	4	CR	
39.	06.09.2017	**Input – Output Organization:** Peripheral devices-Explanation	4	CR	
40.	08.09.2017	Input – Output Organization: input-output interface-examples	4	CR	
41.	09.09.2017	Asynchronous data transfer-modes of transfer	4	CR	
42.	11.09.2017	Example of programmed I/O and Interrupt-Initiated I/O	4	CR	
43.	13.09.2017	Interrupts-Types and Priority Interrupt	4	CR	
44.	15.09.2017	Direct memory access, DMA controller, DMA transfer	4	CR	
45.	16.09.2017	Input – output processor (IOP) and serial communication	4	CR	
		Unit-5			
46.	18.09.2017	Pipeline: Parallel processing-concepts and explanation	5	CR	
47.	20.09.2017	Pipelining concepts. Arithmetic pipeline, instruction pipeline	5	CR	
48.	22.09.2017	RISC pipeline with examples.	5	CR	
49.	23.09.2017	**Multi processors:** Characteristics of multiprocessors and its applications	5	CR	
50.	25.09.2017	Interconnection structures in detail	5	CR	
51.	04.10.2017	Interprocessor arbitration: system bus, Serial arbitration procedure	5	CR	
52.	06.10.2017	Interprocessor communication and synchronization	5	CR	
53.	07.10.2017	Mutual exclusion with a semaphore	5	CR	
54.	09.10.2017	Concept of cache coherence in detail.	5	CR	
55.	11.10.2017	Conditions for incoherence, solutions to the cache coherence problem -Previous papers review	5	CR	

Faculty Name: D.Yugandhar/ T.Viswanadham / P.Krishna Rao

CR: Class Room   OHP: Overhead Projector   LCD: LCD Projector

3/7/17

TEXT BOOKS:
1. Computer System Architecture – M.Moris Mano, PHI / Pearson, 3/e.
2. Computer Architecture and Organization – John P. Hayes, Mc Graw Hill International editions.

REFERENCE BOOKS:
1. Computer Organization – Car Hamacher, Zvonks Vranesic, Safwat Zaky, McGraw Hill, 5/e.
2. Computer Organization and Architecture – William Stallings, PHI/Pearson, 2006, 7/e.

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Vijayadhar)