

LESSON PLAN

Subject Name: COMPUTER ORGANIZATION AND ARCHITECTURE

Subject Code : 13CS3008

Class / Semester: III B.Tech I Semester

Branch: ECE

Academic Year: 2017-18

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodol ogy	Remarks
		Unit-1			
1.	12.06.2017	Introduction: Basics of computer and its applications.	1	CR	
2.	13.06.2017	Fundamental concepts of design methodologies;	1	CR	
3.	15.06.2017	Basic organization of computer.	1	CR/LCD	
4.	16.06.2017	Computer types, functional unit and its importance.	1	CR	
5.	19.06.2017	Basic operational concepts,	1	CR	
6.	20.06.2017	Types of Bus structures, software, performance measurements.	1	CR/LCD	
7.	22.06.2017	Explanation and examples of Multiprocessors and multi computers.	1	CR	
8.	23.06.2017	Data representation: fixed point representation with some examples floating point representation. Problems and solutions	1	CR	
9.	27.06.2017	Data representation: floating point representation with some examples	1	CR	
10.	29.06.2017	Problems and solutions	1	CR	
		Unit-2			
11.	30.06.2017	Computer Arithmetic: Explanation of Addition and subtraction algorithms	2	CR	
12.	10.07.2017	Problems and Solutions	2	CR	
13.	11.07.2017	Multiplication algorithms and its explanation	2	CR	
14.	13.07.2017	Division algorithms and its explanation	2	CR	
15.	14.07.2017	Problems and Solutions		CR	
16.	17.07.2017	Examples on Addition, Subtraction, Multiplication and Division	2	CR	
17.	18.07.2017	Fixed and floating – point arithmetic operations with examples	2	CR	
18.	24.07.2017	Decimal arithmetic unit and decimal arithmetic operations	2	CR	
19.	25.07.2017	Problems and Solutions	2	CR	
20.	27.07.2017	Problems and Solutions	2	CR	
		Unit-3			
21.	28.07.2017	Register Organization, Machine Instruction set: Register transfer language	3	CR	
22.	31.07.2017	Register transfer bus and memory transfers	3	CR	
23.	01.08.2017	Arithmetic micro-operations	3	CR	
24.	03.08.2017	Logic micro operations	3	CR	
25.	04.08.2017	Shift micro operations	3	CR	
26.	07.08.2017	Arithmetic logic shift unit-Explanation	3	CR	
27.	08.08.2017	Instruction codes-Examples	3	CR	
28.	10.08.2017	General register Organization, Control word	3	CR	
29.	11.08.2017	Computer instructions: Instruction Format and Instruction cycle	3	CR	
30.	14.08.2017	Addressing Modes with Examples	3	CR	
31.	17.08.2017	Processor organization, RISC and CISC characteristics	3	CR	

		Unit-4			
32	18.08.2017	Memory System: Memory hierarchy, main memory-Explanation	4	CR	
33	21.08.2017	Auxiliary memory, Associative memory-Explanation	4	CR	
34	22.08.2017	Hardware organization, Match logic, Read and Write operations	4	CR/LCD	
35	24.08.2017	Cache memory, Associative and direct mapping concepts	4	CR/LCD	
36	28.08.2017	Cache initialization and writing into cache	4	CR	
37.	29.08.2017	Virtual memory concept and its importance	4	CR	
38.	04.09.2017	Memory management hardware, memory protection	4	CR	
39.	05.09.2017	Input – Output Organization: Peripheral devices-Explanation	4	CR	
40.	07.09.2017	Input – Output Organization: input-output interface-examples	4	CR	
41.	08.09.2017	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.	12.09.2017	Interrupts-Types and Priority Interrupt	4	CR	
44.	14.09.2017	Direct memory access, DMA controller, DMA transfer	4	CR/LCD	
45.	15.09.2017	Input – output processor (IOP) and serial communication	4	CR	
		Unit-5			
46.	18.09.2017	Pipeline: Parallel processing-concepts and explanation	5	CR/LCD	
47.	19.09.2017	Pipelining concepts. Arithmetic pipeline, instruction pipeline	5	CR/LCD	
48.	21.09.2017	RISC pipeline with examples.	5	CR	
49.	22.09.2017	Multi processors: Characteristics of multiprocessors and its applications	5	CR	
50.	25.09.2017	Interconnection structures in detail	5	CR	
51.	03.10.2017	Interprocessor arbitration: system bus, Serial arbitration procedure	5	CR	
52.	05.10.2017	Interprocessor communication and synchronization	5	CR	
53.	06.10.2017	Mutual exclusion with a semaphore	5	CR	
54.	09.10.2017	Concept of cache coherence in detail.	5	CR	
55.	10.10.2017	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

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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