

DEPARTMENT OF COMPUTER ENGINEERING  
**GOVERNMENT ENGINEERING COLLEGE DAHOD**  
 GUJARAT TECHNOLOGICAL UNIVERSITY

Semester 4

Term: Even 2017-18 [26<sup>th</sup> Dec 2017 – 20<sup>th</sup> April 2018]

COMPUTER ORGANIZATION [2140707]

**LECTURE WISE LESSON PLAN**

Name of Faculty: V J Patel, Asst. Prof. Computer Engineering

Weeks In Term: 17 Weeks – 2 Weeks for MidSem & Remid – 2 Weeks Submission & Leaves

Actual Weeks: 13 Weeks = 52 Lectures

Lect.	Topic	Date
1	Introduction to the subject, Computer Architecture	
2	Basic Computer Data Types	
3	Complements, r and r-1	
4	Fixed Point Representation , Floating Point Representation	
5	Register Transfer, Register Transfer Language, Memory Transfer	
6	Arithmetic Micro-Operations, Logic Micro operations, Arithmetic & Logical Shift	
7	Timing & Control, Computer Registers and Computer Instructions	
8	Instruction Codes, Instruction Cycles	
9	Memory Reference Instructions, I/O and Interrupts	
10	Basic Computer Design, Design of Accumulator Unit	
11	Introduction to Machine Language	
12	Assembly Language & Assembler	
13	Program Loops, Programming Arithmetic and Logic Operations	
14	Sub-Routines and I/O Programming	
15	Sub-Routines and I/O Programming	
16	Introduction to Micro Program Control	
17	Control Memory and Address Sequencing	
18	Micro Program Example and Control Unit	
19	Introduction to Central Processing Unit, General Register & Stack Organization	
20	Instruction Format	
21	Addressing Modes	
22	Data Transfer and Manipulation	
23	Program Control	
24	RISC	
25	Introduction to Pipelining and Vector Processing	
26	Flynn's Taxonomy,	
27	Arithmetic and Instruction Pipelining	
28	RISC Pipelining,	
29	Vector Processing and Array Processing	
30	Introduction to Computer Arithmetic	
31	Multiplication and Division Algorithms	
32	Floating Point Operations	
34	Decimal Arithmetic Unit	
35	I/O Interface,	
36	Asynchronous Data Transfer Mode	
37	Modes of Transfer	
38	Priority Interrupt	
39	DMA	
40	I/O Processor	

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41	CPU-IOP Communications		
42	Serial Communications		
43	Memory Organization, Memory Hierarchy		
44	Auxiliary Memory		
45	Associative Memory		
46	Virtual Memory		
47	Characteristics of Multiprocessor		
48	Interconnection Structures of Microprocessors		
49	Inter-processor Arbitration		
50	Inter-Processor Communication and Synchronization		
51	Cache Coherence		
52	Shared Memory Multiprocessors		

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