

Sl.No.	Lessons/Topics to be covered	Book Reference (sections)
1	Organization and Architecture.	WS 1.1 (pg.26-
2	Structure and Function.	WS 1.2 (pg.27-
3	Embedded Systems and Cloud Computing.	WS 1.5 & WS 1.7 (pg.53-57 & pg. 63-66)
4	Lab#0: Introduction to 8086 microprocessor - Architecture (Execution unit, Bus interface unit, Register organization) and Evolution of x86 processor.	
5	Designing for Performance Multicore, MICs, and GPG- PUs.	WS 2.1-2.2 (pg.69-77)
6	Two Laws that Provide Insight: Amdahl's Law and Little's Law.	WS 2.3 (pg.77-
7	Basic Measures of Computer Performance.	WS 2.4 (pg.80-
8	Lab#1: Analyze the Arithmetic and logical operations using different Addressing Modes of the 8086 Microprocessor	
9	Calculating the Mean.	WS 2.5 (pg.83-
10	Calculating the Mean.	WS 2.5 (pg.83-
11	Computer components & Computer Function (Instruction fetch and Execute).	WS 3.1-3.2 (pg.105- 113)
12	Lab#2: Analyze and Evaluate the Branching operation in the 8086 Microprocessor.	
13	Computer Function (Interrupts) and I/O function.	WS 3.2 (pg.113-123)
14	Interconnection Structures. Bus Interconnection.	WS 3.3-3.4 (pg.123- 126)
15	Computer Memory System Overview.	WS 4.1 (pg.145-151)
16	Lab#3: Analyze and Evaluate the Array Operations using 8086 microprocessors.	
17	Cache Memory Principles.	WS 4.2 (pg.152-155)
18	Elements of Cache Design (Direct mapping).	WS 4.3 (pg.155-162)
19	Elements of Cache Design (Associative and set-associative mapping).	LU 4.3 (pg.162-168)
20	Lab#4: Evaluate Different Arithmetic Operations and Logical operations on two 32-bit data using ARM processor	
21	Semiconductor Main Memory (DRAM,SRAM and Types of ROM)	WS 5.1 (pg.190-194)
22	Error Correction.	WS 5.2 (pg.198-204)
23	Error Correction.	WS 5.2 (pg.198-204)
24	Lab#5: Analyze and evaluate different Array operations using ARM	
25	RAID	WS 6.2 (pg.228-236)
26	RAID	WS 6.2 (pg.228-236)
27	External devices (Classification) and I/O modules (Module function, I/O module structure).	WS 7.1-7.2 (pg.254- 259)
28	Lab#6: Interfacing Seven Segment Display with 8086 processor.	

29	Programmed I/O (8255)	WS 7.3 (pg.259-262, & pg. 269-272)
30	Interrupt-Driven I/O (82C59A)	WS 7.4-7.5 (pg.263- 268)
31	Direct memory access (8237A)	WS 7.5 (pg.272-277)
32	Operating system overview.	WS 8.1 (pg.300-311)
33	Scheduling	WS 8.2 (pg.311-317)
34	INTEL x86 Memory management.	WS 8.4 (pg.328-333)
35	ARM Memory management.	WS 8.5 (pg.333-338)
36	Integer Arithmetic (Addition, Subtraction, Multiplication(Booth's Algorithm) and Division	WS 10.3 (pg.359-374)
37	Integer Arithmetic (Addition, Subtraction, Multiplication(Booth's Algorithm) and Division	WS 10.3 (pg.359-374)
38	IEEE standards for Floating point representation	WS 10.4 (pg.374-382)
	<p>Important topics of Digital Logic</p> <p>Binary Arithmetic, addition, subtraction using 1s,2s and 9s 10s complement, multiplication and division</p> <p>Hexadecimal and Octal Arithmetic</p> <p>Different code converter and conversion to from binary adder , subtractor circuits</p>	