

TEACHING PLAN FOR THEORY

Course Instructor: Bharati Patil

Course: Computer Architecture & Organization
Programme: E&TC Engineering

Class: S.Y. B. Tech - B [ODD TERM]
Academic Year: 2018-2019

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
1.		Syllabus Discussion, Discussion on course objective & course outcome
2.		Prerequisite Discussion, General Discussion related to topics in CAO
Unit I: Basic Structure of Computers		
3.		The Evolution of Computers,
4.		Functional Units, Basic operational concepts
5.		Bus Structure, Performance Measures
6.		System Architecture, VLSI Era
7.		Von Neumann Architecture. Addressing modes,
8.		Execution of a Complete Instruction.
Unit II: Data Path Unit		
9.		Data Representation, Fixed and Floating point numbers
10.		Signed numbers, Fixed-Point Arithmetic
11.		Booths Algorithm, Division:

Course: Computer Architecture & Organization
Programme: E&TC Engineering

Class: S.Y. B. Tech -B [ODD TERM]
Academic Year: 2018-2019

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
12.		Restoring and Non Restoring algorithms,
13.		Arithmetic Logic unit
14.		Floating point representations
15.		IEEE standards
16.		Floating point arithmetic.
Unit III: Processing Unit		
17.		Basic Concept, Hardwired control
18.		Micro programmed Control
19.		Coprocessor
20.		Pipeline Control
21.		Pipeline Performance
Unit IV: Memory Organization		
22.		Characteristics of memory, Internal and External Memory
23.		Types of memory: RAM: SRAM
24.		DRAM, SDRAM,RDRAM

Course: Computer Architecture & Organization
Programme: E&TC Engineering

Class: S.Y. B. Tech - B[ODD TERM]
Academic Year: 2018-2019

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
25.		ROM: PROM, EPROM
26.		EEPROM, Cache Memory
27.		Virtual Memory, Associative Memory
28.		Secondary Memory Performance
Unit V: Input/ Output Organization		
29.		I/O mapped I/O and memory mapped I/O
30.		Interrupts and interrupts Handling Mechanisms,
31.		Direct Access Memory, Buses: synchronous vs. asynchronous
32.		Interface Circuits
33.		Standard I/O Interface: PCI,SCSI,USB. Computer Peripheral
34.		I/O devices such as magnetic disk, magnetic tape,.
35.		CDROM, USB systems
Unit VI: Parallel Organization		
36.		Superscalar Processors, Multiple Processor Organizations
37.		Symmetric Multiprocessors, Clusters, Non -uniform Memory Access

Course: Computer Architecture & Organization
Programme: E&TC Engineering

Class: S.Y. B. Tech - B[ODD TERM]
Academic Year: 2018-2019

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
38.		Vector Computations, Bus allocation Schemes.
39.		RISC: Instruction execution characteristics, use of large register file
40.		Compiler based register optimization,
41.		RISC architecture and pipelining. RISC Vs CISC.