**SARDAR VALLABHBHAI PATEL INSTITUTE OF TECHNOLOGY**

**VASAD**

**COMPUTER ENGINEERING DEPARTMENT**

**B. E. Computer Engineering and Information Technology**

**S.Y. 4th Sem.**

**SYLLABUS for Mid-Semester TEST-1**

**Subject Name: Computer Organization**

**Subject Code: 2140707**

1. **Computer Data Representation**

Basic computer data types, Complements, Fixed point representation, Floating point representation

1. **Overview of Register Transfer and Micro operations**

Register Transfer Language, Register transfer, Bus and Memory transfer, Arithmetic Microoperations, Logic Micro-operations, Shift Micro-operations, Arithmetic Logic Shift Unit

1. **Basic Computer Organization and Design**

Instruction codes, Computer registers, Computer instructions, Timing and Control, Instruction Cycle, Memory-Reference Instructions, Input-Output and Interrupt, Complete computer description, Design of Basic Computer, Design of Accumulator Unit

1. **Programming the Basic Computer**

Introduction, Machine Language, Assembly Language, Assembler, Program loops, Programming Arithmetic and logic operations, subroutines, I-O Programming.

1. **Computer Arithmetic**

Introduction, Addition and subtraction, Multiplication Algorithms

(Booth Multiplication Algorithm), Division Algorithms, Floating Point

Arithmetic operations, Decimal Arithmetic Unit.

Ms. Neha Soni HOD

Course Coordinator CE Dept.