

**SARDAR VALLABHBHAI PATEL INSTITUTE OF TECHNOLOGY(SVIT),
VASAD**

**Syllabus for 1st Mid Sem Examination
Semester : 1(Branch : Computer)**

Subject: Basic Electronics (3110016)

1. Diode theory and applications

Basic idea about forward bias, reverse bias and VI characteristics, ideal diode, second and third approximation, surface mount diodes, Zener diode, Testing of diode with multi-meter, half wave rectifier, full wave rectifier, bridge rectifier, RC and LC filters, Design of un-regulated DC power supply

2. Bipolar junction transistors and its biasing

BJT operation, BJT voltages and currents, CE, CB and CC characteristics, DC load line and bias point, base bias, emitter feedback bias,

Subject: Basics of Electrical Engineering (3110005)

1. DC Circuits:

Electrical circuit elements (R, L and C), voltage and current sources, Kirchhoff's current and voltage laws, analysis of simple circuits with dc excitation. Superposition, Thevenin and Norton Theorems.

2. AC Circuits

Representation of sinusoidal waveforms, peak and RMS values, Phasor representation of AC quantities

Subject: Mathematics -1 (310014)

1. Partial Derivative:

- Functions of Several Variables. Limits and Continuity
- Partial Derivatives, Mixed Derivative Theorem
- Differentiability, Chain Rule
- Implicit Differentiation
- Euler's Theorem

2. Application of Partial Derivatives:

- Tangent Plane and Normal Lines
- Total Differentiation, Local Extreme Values
- Method of Lagrange Multipliers
- Jacobian
- Taylor's Series and Maclaurin Series