



**Maharashtra State Board of
Secondary & Higher Secondary School, Pune**

Department of Electronics
Bifocal

Subject: Electronics (C2)
Std: XI

Faculty: Science
Syllabus

XI Electronics- II (Theory & Practical)

XI Syllabus

Theory Index

Paper II			
Sr. No.	Units / Topics	Weightage	
		Compulsory	Withoption
1	Semiconductor & Diodes	8	15
2	Transistors	12	25
3	Transistor Amplifiers	10	20
4	Oscillators	15	30
5	Semiconductor Devices	05	10
	Total	50	100

Syllabus

Paper II

Sr. No.	Name of theTopic	Scope of Syllabus
1.	Semiconductors and Diodes	<ul style="list-style-type: none">• Atomic structures• Energy levels• Intrinsic semiconductors• Extrinsic semiconductors• Concept of doping• N-type Semiconductors• P-type Semiconductors• Formation of P-N Junction diode• Forward biasing and Reverse biasing• Characteristics of P-N Junction diode
2.	Transistors	<ul style="list-style-type: none">• Bipolar transistors• Sign conversion• Transistors configuration(CE,CC,CB)• Construction of CE amplifier• Transistor testing• Transistor biasing• Unipolar transistors JEET• Structure and operation of FET• Characteristics and parameters of MOSFET• UJT Structure and characteristics
3.	Transistor Amplifier	<ul style="list-style-type: none">• Concept of Amplification• Analysis of single stage CE amplifier• Types of coupling• Power amplifiers• Classification of amplifiers• Transistor as switch• Study of differential amplifiers

4.	Oscillators	<ul style="list-style-type: none">• Classification of oscillators• Positive and negative feedback• R-C oscillators• Wien – bridge oscillators• L-C oscillators• Hartley and Colpitts oscillators• Sawtooth oscillators
5.	Semiconductor Devices	<ul style="list-style-type: none">• Types of diodes(Zener, Varactor, Schottkey, Photodiode, LED)• Thyristors-Study of SCR, TRIAC and DIAC