

**BIFOCAL VOCATIONAL COURSES**  
**Standard - XI      Subject - ELECTRONICS (C2)      Paper - I - Basic Electricity and Components ( Theory )**  
**25 %Reduction of Syllabus for Academic year - 2020-2021**

Sr. No	Topic	Sub-Topic	Content to be Omitted for Academic year - 2020-2021	Remark
1)	Sources of power & network Theorems	Sources of electrical power	*	Self study possible , consider for internal evaluation .
		Internal impedance of a source	*	
		DC voltage & current sources	*	
		Kirchhoff's laws	*	
		Network theorems	*	
	Review of Electromagnetism	concept of magnetic field, lines of mag. Field, mag, poles mag, flux, units , flux density , ( Tesla ) ( B ), comparison of flux and flux density, laws of an electromagnetic induction ( lenz's law, faradays laws). Concept of mag. Potential & its unit ampere turn permeability, intensity of mag. Field (H), permeability( $\mu$ ), B-H curve, mag. hysteresis , demagnetization, degaussing is not expected) ,mag. field around an electric current, mag. polarity of coil, mag. field between two coils.		
2)	AC Fundamentals & Circuits	Alternating current sinusoidal waveforms	*	
		Non sinusoidal Waveforms	measurement , their frequency , wavelength etc.	
		The 50 Hz. ac powerline AC Circuits	( Real power) series , parallel & series parallel resonance.	
3)	Instruments	PMMC	*	
		DC Voltmeter	*	
		DC Ammeter	*	
		Ohmmeter	shunt type Ohmmeter ( derivation is not expected )	
4)	Study of Components	Resistors	*	
		Capacitors	*	
		Inductors	eddey current & hysteresis	
		Transformers	losses .	
		Relays	*	
		Switches	Introduction to different types of switches & their important specifications.	
		Batteries	Rechargeable cells- Ni-Cd , Li batteries, solar cells ( introduction only)	
		Accessories for ckt. Construction	Types of wires, their important specifications, PCB ( fabricaton is not expected) , bread board, lug/tag board.	

**Note -Teachers can use supplementary material like e- sources , worksheets , projects , assignments , home work etc. to deal with the self - study portion.**

Shri A .G. Bidkar  
 Pemraj Sarda College, A.nagar  
 Sign of Committee Member 1

Shri. S.S Shaikh  
 HPT/RYSK Science College , Nashik  
 Sign of Committee Member 2

Principal  
 ITI, Girls Nashik

**BIFOCAL VOCATIONAL COURSES**

Standard - XI

Subject - ELECTRONICS (C2)

Paper - II - Semiconductor Devices and Circuits ( Theory )

25 %Reduction of Syllabus for Academic year - 2020-2021

Sr.	Topic	Sub-Topic	Content to be Omitted for Academic year - 2020-2021	Remark
1)	Semiconductors	Structure of semiconductors	*	Self study possible , consider for internal evaluation .
		Conduction in semiconductor	*	
		p-n junction	*	
		Biassing	*	
2)	Study of Transistors	Introduction	*	
		Configuration	*	
		Characteristics	Characteristics of CE configuration & ekt. arrangement for plotting the same, active, saturation & cutoff regions.	
		Basic Amplifier	*	
		Uni polar Transistor	MOSFET - depletion type , UJT - (characteristics of UJT)	
3)	Study of semiconductor components	Diode	*	
		Transistors	*	
		SCR , TRIAC , DIAC	Structure & application .	
4)	Amplifiers	Introduction	*	
		Biassing	fixed bias with emmitter resistor .	
		Negative feedback	*	
		single stage CE amplifier	*	
		Multistage amplifier	Types of coupling- Transformer , LC their advantages & coupled amplifier & its interpretation.	
		classification	Classification of amplifier on the basis of Q- point , class -A , class- B , class AB, class -C their typical application areas.	
		Differential amplifier	Study of differential amplifier , its need , basic ekt. working , various parameters.	
5)	Oscillators	Introduction	*	
		classification	*	
		Feedback oscillators	*	
		RC Oscillator	formula for & weinbridge oscillator- dig. working , formula.	
		LC Oscillator	Colpitt's oscillators - dig. working , formula.	

Note -Teachers can use supplementary material like e- sources , worksheets , projects , assignments , home work etc. to deal with the self - study portion.

Shri A .G. Bidkar  
Pemraj Sarda College, A.nagar  
Sign of Committee Member 1

Shri. S.S Shaikh  
HPT/RYSK Science College , Nashik  
Sign of Committee Member 2

Principal  
ITI, Girls Nashik