"PVC" NSSK Govt. Polytechnic Bilaspur at Kalol
Lecture Planning (Theory)

Branch : **Electrical Engg.** Semester: **3rd**

Subject : **Electrical Circuits** Session: **Aug 23 - Dec 23**

Teacher : **Ashwani Kumar** Cass Room : **L4**

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Rem
1.	1-11	Single Phase A.C Series Circuits	Generation of alternating voltage, Phasor representation of sinusoidal quantities R, L, C circuit elements its voltage and current response. R-L, R-C, R-L-C combination of A.C series circuit, impedance, reactance, impedance triangle, Power factor, active power, reactive power, apparent power, power triangle and vector diagram, Resonance, Bandwidth, Quality factor and voltage magnification in series R-L, R-C, RL-C circuit.	R1,R2,R3	
2.	12-23	Single Phase A.C Parallel Circuits	R-L, R-C and R-L-C parallel combination of A.C. circuits. Impedance, reactance, phasor diagram, impedance triangle. R-L, R-C, R-L-C parallel A.C. circuits power factor, active power, apparent power, reactive power, power triangle Resonance in parallel R-L, R-C, R-L-C circuit, Bandwidth, Quality factor and voltage magnification.	-do-	
3.	24-38	Three Phase Circuits	Phasor and complex representation of three phase supply, Phase sequence and polarity Types of three-phase connections, Phase and line quantities in three phase star and delta system, Balanced and unbalanced load, neutral shift in unbalanced load. Three phase power, active, reactive and apparent power in star and delta system.	-do-	
4.	39-50	Network Reduction and Principles of Circuit Analysis	Source transformation, Star/delta and delta/star transformation Mesh Analysis, Node Analysis.	-do-	
5.	51-65	Network Theorems	Superposition theorem, Thevenin's theorem, Norton's theorem, Maximum power transfer theorem, Reciprocity theorem, Duality in electric circuits.	-do-	

08/08/23

Signature of Teacher with Date

Signature of OIC (EE)