PLANNED SYLLABUS COVERAGE (Theory)

GP Bilaspur	Department: Electrical Engineering		Subject : EDC-1		
	Course : Diploma		Duration: 3 Yrs.		
SYLLABUS COVERAGE	Total Period: 56		Theory : 56		
Sr. No.	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	3 (1-3)	**Concept of Voltage and Current Source**	Concept of Voltage & Current Sources, Conditions for source to act as voltage source and current source, Graphical representation of voltage and current sources, difference between ideal and practical sources, Conversion of voltage source into current source and vice-versa.	Network Analysis and Synthesis by BR Gupta (S.Chand)	Principles of Electronics by Molvino	
2	7 (4-10)	**Review of Basic Electronics**	P-N Junction, Semiconductor Diode Characteristics (Forward/reverse), Zenor Diode, Zenor diode characteristics, Zenor Diode as Voltage Regulator, Application of diode as Rectifier (Half-wave, Full wave: Centre tap & bridge configuration), ripple factor, filter circuit in rectifier	Principles of Electronics by VK Mehta (S.Chand)	------do-------	
3	18 (11-28)	**Transistor**	Transistor: Constructional Features of Transistor (PNP & NPN Type), Working Principle of Transistor, Working of Transistor as an Amplifier, Concept of Transistor biasing and selection of operating point, Potential divider biasing Circuit. Need for stabilization of operating point. Configurations of Transistor: Common Base (CB), Common Emitter (CE), Common Collector (CC), Input/Output Characteristics of Transistor in CB, CE & CC Modes.Transistor as an Amplifier (CE mode), Concept of DC load line and operating point. Performance characteristics of transistor amplifier i.e. input resistance, output resistance, effective collector load, current gain, voltage gain & power gain, Explanation of phase reversal of output voltage with respect to input voltage and its graphical demonstration, Concept of AC load line Emitter Follower Circuit, Working of Transistor as a Switch.	------do-----	------do-------	

4	10 (29-38)	**Multistage Amplifiers**	Need for multistage amplifier; Gain of multistage amplifier; Expression of gain of Amplifier in dB, Different types of multistage amplifier: RC coupled, Transformer coupled, and Direct coupled amplifier, Frequency response and bandwidth of RC Coupled Amplifier.	------do------	------do-------	
5	7 (39-45)	**Large Signal Amplifiers**	Difference between Voltage & Power Amplifier, Importance of Impedance matching in Amplifiers, Classification of Amplifiers: Class A, Class B, Class C, Class AB, Push Pull Amplifier-Circuit Description & Working, Complementary Push-Pull Amplifier Circuit	------do------	------do------.	
6	7 (46-52)	**Feedback in Amplifiers**	Types of feedbacks in Amplifier, Derivation of expression for gain of an amplifier employing feedback (negative & positive), Effect of negative feedback on gain, gain stability, distortion, frequency response, bandwidth and input & output impedance of an amplifier. RC coupled amplifier circuit with & without emitter bypass capacitor, Advantages and disadvantages of negative feedback in amplifier circuit.	------do------	------do-------	
7	4 (53-56)	**Field Effect Transistors (FET)**	Construction, working principle and V-I characteristics of FET, difference between FET and Bipolar junction transistor (BJT), Difference between MOSFET and FET, Comparison between BJT, FET and MOSFET in terms of their features and applications.	------do------	------do-------	

Approved	HOD Sign.
Date:	HOD(CS)

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