PLANNED SYLLABUS COVERAGE (Theory)

GP Bilaspur SYLLABUS COVERAGE		Department: Electrical Engineering		Subject : EDC		
		Course : Diploma		Duration: 3 Yrs.		
		Total Period: 56		Theory : 56		
Sr. No.	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.	**12** (1-12)	**Semiconductor and Diodes**	Definition, Extrinsic/Intrinsic, N-type & P-type. PN Junction Diode – Forward and Reverse Bias Characteristics. Zener Diode – Principle, characteristics, construction, and working. Diode Rectifiers – Half Wave and Full Wave. Filters – C, LC, and PI Filters	Electronics Devices and circuit theory Boyestad &Nashelsky Pearson Education India	Electronics Devices & Circuits Jacob Millman McGraw Hill Education:	
2.	12 (13-24)	**Bipolar Junction Transistor (BJT)**	NPN and PNP Transistor – Operation and characteristics. Common Base Configuration – characteristics and working. Common Emitter Configuration – characteristics and working. Common Collector Configuration – characteristics and working. High frequency model of BJT. Classification of amplifiers, negative feedback.	------do------	------do-----	
3.	**10** (25-34)	**Field Effect Transistors : FET**	Working Principle, Classification. MOSFET Small Signal model. N-Channel/ P-Channel MOSFETs – characteristics, enhancement, and depletion mode, MOS- FET as a Switch. Common Source Amplifiers. Uni-Junction Transistor – equivalent circuit and operation.	------do------	------do-----	
4.	**12** (35-46)	**SCR DIAC &TRIAC: SCR**	Construction, operation, working, characteristics. DIAC - Construction, operation, working, characteristics. TRIAC - Construction, operation, working, characteristics. SCR and MOSFET as a Switch, DIAC as bidirectional switch. Comparison of SCR, DIAC, TRIAC, MOSFET.	------do------	------do-----	

5.	**10** (47-56)	Amplifiers and Oscillators	Feedback Amplifiers – Properties of negative Feedback, impact of feedback on different parameters. Basic Feedback Amplifier Topologies: Voltage Series, Voltage Shunt, Current Series, Current Shunt. Oscillator – Basic Principles, Crystal Oscillator, Non-linear/ Pulse Oscillator.	------do------	------do------	

01/08/25

Approved	HOD Sign.
Date:	01.8.25