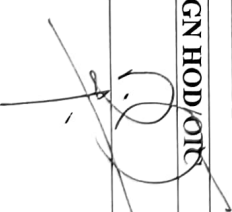


“PVCNSSK” GOVT. POLYTECHNIC BILASPUR at KALOL
PLANNED THEORY SYLLABUS COVERAGE

PTSC-7.1

GPR		Department: Electrical Engg.		Subject: Electronics Devices and Circuits-II		
		Sem. & Branch : 4 th & EE		Duration : 3years		
SYLLABUS COVERAGE		Total Periods: Theory:56		Practical:28		
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	10(1-10)	Sinusoidal Oscillators	Working Principle of Oscillator, Use of positive feedback in amplifier circuit; Barkhausen criterion, Difference between Oscillator & Electrical Generator. Different Types of Oscillator circuits: Tuned collector, Hartley, Colpitts, Phase shift, Wien Bridge, and Crystal oscillator-Their working principle, frequency range and applications.			
2	6(11-16)	Tuned Voltage Amplifier	Series and Parallel Resonant Circuits, Comparison between Series and Parallel resonant Circuits, Single & Double Tuned Voltage Amplifier Circuits and their frequency response.			
3	8(17-24)	Wave Shaping Circuits	Integrating and differentiating circuits: Their working and applications, Diode Clipping circuits, biased Clipping circuits, Clamping circuits.			
4	8(25-32)	Multivibrator Circuits	Working principle of Transistor as Switch, Concept of Multi-vibrator: Astable, Monostable, and Bistable, Block diagram of IC555 and its working and applications, Working of IC555 as astable and monostable multivibrator, Applications of Multivibrator Circuits			

Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
5	10(33-42)	Operational Amplifiers	Characteristics of an ideal operational amplifier and its block diagram, Pin Identification of IC741, Definitions: Differential voltage gain, CMRR, slew rate, input offset current, input offset voltage, total output offset voltage, Open loop configurations: Differential, Inverting & Non Inverting modes, limitations of open loop configuration. Closed loop configuration: As an Inverting & Non-inverting amplifier, Schmitt trigger circuit, Comparator, Differentiator and Integrator.			
6	6(43-48)	Optoelectronic Devices	Working principle of Photo-resistor, photo diode, photo transistor and their applications, Need for Opto-isolation in electronic circuit, Working of optocoupler circuit.			
7	8(49-56)	Regulated Power Supplies	<ul style="list-style-type: none"> - Working of DC regulated power Supply - Line and load side regulation - Regulator ICs (78XX, 79XX) - Switching Mode Power Supply (SMPS)-Working Principle, advantages & applications. 			

APPROVED	SIGN HOD/OIC
13/02/23	
DATE	