

## **LESSON PLAN**

**EVEN SEM  
(2021-2022)**

**Name of the Assistant Professor-** Ms. Neha Dobriyal

**Department-** Electronics & IT

**Lesson Plan-** 12 Weeks (11.04.2022- 30.06.2022)

Week	Date	B.Sc. (Hons.)-IT Sem- IInd Paper: BSIT-203 Subject: Applications of EM Waves Days: M-T-W (3 Days )	B.Sc. (Hons.)-IT Sem- IInd Paper: BSIT-204 Subject: Digital Electronics-I Days: M-T-W (3 Days )	B.Sc. II H) -IT Sem- IVth Paper: BSIT-402 Subject: Oscillators and Multivibrators Days: T-F-S (3 Days)	B.Sc.-I Sem-IV Paper-I Subject: Oscillators and Multivibrators Days: T-F-S (3 Days)	B.Sc. -I (Hons.) Sem- IInd Paper: I Subject: Electronic Devices and Circuits-II Days: T-F-S (3 Days)	
1	11.04.2022	Introduction to syllabus and Scheme of the subject	Introduction to syllabus and Scheme of the subject	-	-	-	
	12.04.2022	Introduction to Propagation of the EM Waves	Introduction to Number System	-	-	-	
	13.04.2022	Ground Wave Propagation	Binary, Octal	-	-	-	
	14.04.2022	<b>Holiday</b>					
	15.04.2022			Introduction to syllabus and Scheme of the subject	Introduction to syllabus and Scheme of the subject	Introduction to syllabus and Scheme of the subject	
	16.04.2022			Offset Voltages and currents	Classification of Amplifiers: voltage, current	Why Bias a Transistor	
2	17.04.2022	<b>Sunday</b>					
	18.04.2022	Sky wave propagation	Hexadecimal number system base conversions				
	19.04.2022	Space wave propagation	Binary Arithmetic operations				

	20.04.20 22	Multipath propagation	1's and 2's complement representation and their arithmetic				
	21.04.20 22			Input bias Current, input offset voltage	Transconductance, Transresistance amplifier	Selection of Operating Point, Need for Bias Stabilization	
	22.04.20 22			Error introduced by offset voltage	Feedback concept, calculation of transfer gain in degenerative and regenerative feedbacks	Requirement of a Biasing Circuit, Different Biasing Circuits: Fixed-Bias Circuit	
	23.04.20 22			Integrating and Differentiating circuit using opamp	Feedback topologies, Effect of negative feedback on gain, Non-linear distortion	Collector-to-base Bias Circuit	
<b>3</b>	24.04.20 22	<b>Sunday</b>					
	25.04.20 22	Troposphere scattering	Binary codes-BCD				
	26.04.20 22	Fading, Free space path loss	Grey codes and conversion				
	27.04.20 22	Numerical on Fading, Free space path loss	Cyclic Codes, ASCII				

	28.04.20 22			Multiplication, division	Frequency response, Effect of negative voltage shunt feedback on input and output resistance Effect of negative voltage series feedback on input and output resistance	Numerical Practice
	29.04.20 22			Schmitt Trigger	Effect of negative current shunt feedback on input and output resistance, Effect of negative current series feedback on input and output resistance	Collector-to-base Bias Circuit
	30.04.20 22			Active filters using opamp ( 1st order)	<b>Assignment-1</b>	<b>Assignment-1</b>
<b>4</b>	01.05.20 22	<b>Sunday</b>				
	02.05.20 22	<b>Assignment-1</b>	EBCDIC, Parity Bit Code,			
	03.05.20 22	<b>Holiday</b>				
	04.05.20 22	Introduction to Antenna	Unicode, Sequential Code <b>Assignment-1</b>			

	05.05.20 22			Active filters using opamp ( Ist order)	Basic Circuit and working only of: Class A large scale amplifier	Bias Circuit with Emitter Resistor
	06.05.20 22			<b>Assignment-1</b>	Push pull amplifier,	Voltage Divider Biasing Circuit
	07.05.20 22			Classification of Amplifiers Voltage Amplifier	Transformer coupled amplifier, Class B amplifier	Emitter-Bias Circuit
<b>5</b>	08.05.20 22	<b>Sunday</b>				
	09.05.20 22	Basic antenna operation	AND, OR, NOT, XOR, XNOR, NOR, NAND (Definition, Symbols & Truth table)			
	10.05.20 22	Radiation mechanism	Boolean Algebra: Postulates			
	11.05.20 22	Elementary doublet antenna	Duality Principle, De Morgan's Law			
	12.05.20 22			Transconductance, Transresistance amplifier	Class AB amplifier, Darlington-pair, efficiency	Gain of a multi-stage amplifier
	13.05.20 22			Feedback concept, Calculation of transfer gain in degenerative	<b>Class Test</b>	Numerical Practice
	14.05.20 22			Calculation of transfer gain in regenerative feedbacks	Principle of oscillations, condition for sustained oscillation	How to couple two stages, Resistance-Capacitance Coupling

6	15.05.20 22	<b>Sunday</b>				
	16.05.20 22	Current and voltage distribution	Simplification of Boolean Identities			
	17.05.20 22	Radiation pattern	Standard SOP & POS Forms			
	18.05.20 22	antenna gain , antenna resistance	Simplification using K-map			
	19.05.20 22			Feedback topologies, Effect of negative feedback on gain, Non-linear distortion, Frequency response	Barkhausen criterion, stability of oscillator, Principle, working and frequency calculation of RF oscillators	Transformer Coupling
	20.05.20 22			Effect of negative voltage shunt feedback on input and output resistance	Principle, working and frequency calculation of Hartley oscillator, Colpitts oscillator	Direct Coupling, Frequency
	21.05.20 22			Effect of negative voltage series feedback on input and output resistance	Principle, working and frequency calculation of crystal oscillator	Response Curve of an RC-Coupled Amplifier of two stage: Fall of Gain in Low-frequency Range
7	22.05.20 22	<b>Sunday</b>				
	23.05.20 22	Numerical on Antenna	<b>Assignment-2</b>			
	24.05.20 22	Bandwidth, beamwidth, polarisation	K Map with don't care condition			

	25.05.20 22	Resonant antenna	Implementatio n of SOP & POS form using NAND and NOR Gate			
	26.05.20 22			Effect of negative current shunt feedback on input and output resistance, Effect of negative current series feedback on input and output resistance	Principle, working and frequency calculation of Wien Bridge oscillator, R-C Phase-shift oscillator	Fall in gain of high Frequencies, Bandwidth of an amplifier
	27.05.20 22			<b>Class Test</b>	Principle, working and frequency calculation of R-C Phase- shift oscillator	Assignment-2
	28.05.20 22			Principle of oscillations, condition for sustained oscillation	<b>Assignment-2</b>	Junctions Field Effect Transistor
<b>8</b>	29.05.20 22	<b>Sunday</b>				
	30.05.20 22	Non resonant antenna	Unipolar & Bipolar Logic families			
	31.05.20 22	Effect of ground on antenna	Characteristics of Digital IC's. (fan in, fan out, propagation delay, Noise Margin, level of Gating)			

	01.06.20 22	Coupling at medium frequency	Resistance Transistor Logic RTL(NOR), Direct Coupled Logic(DCTL)			
	02.06.20 22	<b>Holiday</b>				
	03.06.20 22	<b>Holiday</b>				
	04.06.20 22			Principal, working and frequency calculation of RF oscillators (Hartley oscillator)	Astable Multivibrator	Qualitative Description of JFET
<b>9</b>	05.06.20 22	<b>Sunday</b>				
	06.06.20 22	General consideration selection of feed point	Diode Transistor Logic			
	07.06.20 22	Antenna coupler <b>Assignment-2</b>	High Threshold Logic			
	08.06.20 22	Directional high frequency antenna Dipole arrays	HTL,DTL (NAND)			
	09.06.20 22			Principal, working and frequency calculation of Colpitts oscillator	Bistable Multivibrator	Drain and transfer characteristics of JFET
	10.06.20 22			Principal, working and frequency calculation of crystal oscillator)	Monostable Multivibrator using BJT	FET small signal low frequency model



	11.06.20 22			Principal, working and frequency calculation of AF Oscillators (Wein Bridge oscillator	Silicon Controlled Rectifier (SCR)	<b>Assignment-2</b>	
<b>10</b>	12.06.20 22	<b>Sunday</b>					
	13.06.20 22	folded antenna and its application	<b>Class Test of K-Maps</b>				
	14.06.20 22	<b>Holiday</b>					
	15.06.20 22	History, Orbital mechanics	TTL Operation				
	16.06.20 22			Principal, working and frequency calculation of Phase-shift oscillator	Triac, Diac	CS low frequency model	
	17.06.20 22			<b>Assignment-2</b>	Triangular waveform generator	CD low frequency model	
	18.06.20 22			Astable Multivibrator, Bistable Multivibrator, Monostable Multivibrator using BJT	Schmitt Trigger	MOSFET - Depletion and enhancement and their drain & transfer characteristics	
<b>11</b>	19.06.20 22	<b>Sunday</b>					
	20.06.20 22	Kepler's three laws of planetary motion	Schott-key TTL				

	21.06.20 22	satellite orbit, satellite elevation categories, Elevation angle, Azimuth angle	MOS logic, CMOS Logic NAND Gate			
	22.06.20 22	Orbital Perturbations	CMOS Logic NOR Gate			
	23.06.20 22			Triangular waveform generator	555 Timer: Block diagram of 555 and its application as Astable Multivibrator	CMOS(Basic idea).
	24.06.20 22			The 555 Timer, Block diagram of 555 and its application as Astable & Monostable Multivibrator	555 Timer: Block diagram of 555 and its application as Monostable Multivibrator	<b>Sessional Exam</b>
	25.06.20 22			<b>Sessional Exam</b>	<b>Sessional Exam</b>	<b>Doubt Session &amp; Revision</b>
<b>12</b>	26.06.20 22	<b>Sunday</b>				
	27.06.20 22	Longitudinal changes, Inclination changes, Remote sensing (Basic idea) and its application	<b>Sessional Exam</b>			
	28.06.20 22	<b>Revision</b>	<b>Doubt Session &amp; Revision</b>			
	29.06.20 22	<b>Sessional Exam</b>	<b>Doubt Session &amp; Revision</b>			
	30.06.20 22			<b>Doubt Session &amp; Revision</b>	<b>Doubt Session &amp; Revision</b>	<b>Doubt Session &amp; Revision</b>

