Lesson Plan

Name of the Associate Professor- Mrs. Rachna

Subject- Physics

Lesson Plan- 17 Weeks (January-April 2018)

Week	Date	Class B.Sc. II SEM(Sec-C) Electronic Devices	Class B.Sc.VI SEM(Sec-B) Atomic and Molecular Physics
1.	1-Jan-18	Discussion of basic terms used in unit	
	2-Jan-18	Energy bands in solids	
	3-Jan-18	intrinsic and extrinsic semiconductor	
	4-Jan-18		Introduction of early observations, emission and absorption spectra, atomic spectra
	5-Jan-18	**Holiday**	
	6-Jan-18		
	7-Jan-18	**Sunday**	
2.	8-Jan-18	carrier mobility and electrical resistivity ofd semiconductor	
	9-Jan-18	hall effect	
	10-Jan-18	p-n junction diode &their characteristics	
	11-Jan-18		spectra of Hydrogen atom , explanation of spectral series in Hydrogen atom, un-quantized states and continuous spectra
	12-Jan-18		variation in Rydberg constant due to finite mass, short comings of Bohr's theory
	13-Jan-18		Wilson sommerfeld quantization rule, de-Broglie interpretation of Bohr quantization law, Bohr's corresponding principle
	14-Jan-18	**Sunday**	
3.	15-Jan-18	zener and avalanche breakdown & zener diode	
	16-Jan-18	zener diode as a voltage regulator	
	17-Jan-18	Light emitting diodes (LED), Photoconduction in semiconductors	
	18-Jan-18		Sommerfeld's extension of Bohr's model, Sommerfeld relativistic correction, Short comings of Bohr-Sommerfeld theory
	19-Jan-18		Vector atom model; space quantization, electron spin, coupling of orbital and spin angular momentum
	20-Jan-18		spectroscopic terms and their

			notation, quantum numbers associated with vector atom model,
	21-Jan-18	**Sunday**	
4.	22-Jan-18	**Vasant Panchami**	
	23-Jan-18	Photodiode, Solar Cell,	
	24-Jan-18	**Sir Chotu Ram Jayanti**	
	25-Jan-18	p-n junction as a rectifier, half wave and full wave rectifiers (with derivation),	transition probability and selection rules
	26-Jan-18	**Republic Day**	
	27-Jan-18		Sommerfeld's extension of Bohr's model
	28-Jan-18	**Sunday**	
5.	29-Jan-18	series inductor filter, shunt capacitance filter	
	30-Jan-18	L-section or choke filter, π-filter	
	31-Jan-18	Guru Ravi Das Birthday	
	1-Feb-18		Unit Test -1
	2-Feb-18		Orbital magnetic dipole moment (Bohr megnaton), behavior of magnetic dipole in external magnetic field
	3-Feb-18		Larmor's precession and theorem, Penetrating and Non- penetrating orbits
	4-Feb-18	**Sunday**	
6.	5-Feb-18	R.C. filter circuits	
	6-Feb-18	Problem discussion of unit 1	
	7-Feb-18	Unit -1 Test	
	8-Feb-18		Penetrating orbits on the classical model**;** Quantum defect
	9-Feb-18		Spin orbit interaction energy of the single valance electron
	10-Feb-18	**Maharishi Dayanand Saraswati Jayanti**	
	11-Feb-18	**Sunday**	
7.	12-Feb-18	Junction transistors	
	13-Feb-18	**Maha Shivratri**	
	14-Feb-18	Working of NPN and PNP transistors	
	15-Feb-18		spin orbit interaction for penetrating and non-penetrating orbits
	16-Feb-18		quantum mechanical relativity correction, Hydrogen fine spectra
	17-Feb-18		Main features of Alkali Spectra and their theoretical interpretation, term series and limits, Rydeburg-Ritze combination principle
	18-Feb-18	**Sunday**	
8.	19-Feb-18	Three configurations of transistor (C-B, C-E, C-C modes),	

	20-Feb-18	Common base, common emitter and common collector characteristics of transistor	
	21-Feb-18	Constants of a transistor and their relation, Advantages and disadvantages of C-E configuration.	
	22-Feb-18		Absorption spectra of Alkali atoms. observed doublet fine structure in the spectra of alkali metals and its Interpretation,
	23-Feb-18		, Intensity rules for doublets, comparison of Alkali spectra and Hydrogen spectrum
	24-Feb-18		Unit Test 2
	25-Feb-18	**Sunday**	
9.	26-Feb-18	D.C. load line .Transistor biasing;	
	27-Feb-18	Assignment on configurations of transistor and D.C Load line	
	28-Feb-18	**Holiday**	
	1-Mar-18	**Holiday**	
	2-Mar-18	**Holi**	
	3-Mar-18	**Holiday**	
	4-Mar-18	**Sunday**	
10.	5-Mar-18	various methods of transistor biasing and stabilization.	
	6-Mar-18	Problem discussion on unit 2	
	7-Mar-18	Unit 2-Test	
	8-Mar-18		Essential features of spectra of Alkaline-earth elements
	9-Mar-18		Vector model for two valance electron atom: application of spectra.
	10-Mar-18		Coupling Schemes;LS or Russell – Saunders Coupling Scheme
	11-Mar-18	**Sunday**	
11.	12-Mar-18	Amplifiers, Classification of amplifiers,	
	13-Mar-18	common base and common emitter amplifiers,	
	14-Mar-18	coupling of amplifiers, various methods of coupling	
	15-Mar-18		JJ coupling scheme,Interaction energy in L-S coupling (sp, pd configuration)
	16-Mar-18		Lande Interval rule, Pauli principal and periodic classification of the elements.
	17-Mar-18		Interaction energy in JJ Coupling (sp, pd configuration),
	18-Mar-18	**Sunday**	
12.	19-Mar-18	Resistance- Capacitance (RC) coupled amplifier (two stage, concept of band width, no derivation	
	20-Mar-18	Feedback in amplifiers	

	21-Mar-18	Advantages and disadvantages of negative feedback,	
	22-Mar-18		equivalent and non-equivalent electrons
	23-Mar-18	**Shaheedi Diwas**	
	24-Mar-18		Two valance electron system-spectral terms of non-equivalent and equivalent electrons
	25-Mar-18	**Sunday**	
13.	26-Mar-18	Two valance electron system-spectral terms of non-equivalent and equivalent electrons	
	27-Mar-18	Two valance electron system-spectral terms of non-equivalent and equivalent electrons	
	28-Mar-18	Two valance electron system-spectral terms of non-equivalent and equivalent electrons	
	29-Mar-18	**Mahavir Jayanti**	
	30-Mar-18		Comparison of spectral terms in L-S And J-J coupling. Hyperfine structure of spectral lines and its origin
	31-Mar-18		Isotope effect, nuclear spin
	1-Apr-18	**Sunday**	
14.	2-Apr-18	Discussion on basic terms used in unit	
	3-Apr-18	Oscillators,Principle of oscillation,	
	4-Apr-18	classification of oscillators, Condition for self sustained oscillation: Barkhausen criterion for oscillation,	
	5-Apr-18		Comparison of spectral terms in L-S And J-J coupling
	6-Apr-18		Zeeman Effect (normal and Anomalous) ,Experimental set-up for studying Zeeman effect
	7-Apr-18		Explanation of normal and anomalous Zeeman effect(classical and quantum mechanical), Lande g-factor
	8-Apr-18	**Sunday**	
15.	9-Apr-18	classification of oscillators, Condition for self sustained oscillation: Barkhausen criterion for oscillation	
	10-Apr-18	Tuned collector common emitter oscillator	
	11-Apr-18	Hartley oscillator	
	12-Apr-18		Zeeman pattern of D1 and D2 lines of Na atom, Paschen-Back effect of a single valence electron system
	13-Apr-18		Weak field Stark effect of Hydrogen atom, General Considerations, Electronic States of Diatomic

			Molecules
	14-Apr-18	**Dr. Ambedkar Jayanti / Vaisakhi**	
	15-Apr-18	**Sunday**	
16.	16-Apr-18	C.R.O. (Principle and Working).	
	17-Apr-18	Problem discussion of unit4	
	18-Apr-18	**Parashurama Jayanti**	
	19-Apr-18		Rotational Spectra in Infra-Red region, Rotational Spectra in Microwave region
	20-Apr-18		Vibrational Spectra (IR Region), Rotator Model of Diatomic Molecule
	21-Apr-18		Raman Effect,classical and quantum mechanical treatment of Raman effect ,spectra
	22-Apr-18	**Sunday**	
17.	23-Apr-18	Unit 4-Test	
	24-Apr-18	Revision of numericals	
	25-Apr-18	Discussion of previous year questions	
	26-Apr-18		Unit test -4
	27-Apr-18		Revision of unit 1 &2
	28-Apr-18		Revision of unit 3&4
	29-Apr-18	**Sunday**	