

**LESSON PLAN FOR ODD SEMESTER(01 Sept, 2022- 25 Dec. 2022)**

**Name of Faculty :Ms. Priyanka**

**Designation : Assistant Professor**

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Week	Date	THEORY (10 PERIODS/WEEK)			PRACTICAL (12 PERIODS/WEEK)	
		M. Sc.– I(1 <sup>st</sup> Sem) Paper(I): (Mon.-Wed. &Sat) Classical Mechanics [04 PERIODS/WEEK]	M. Sc. – I(1 <sup>st</sup> Sem) Paper(V): (Wed.-Thu.) Electronics -I [02 PERIODS/WEEK]	M.Sc.-3 <sup>rd</sup> Sem. Paper(V): (Mon.-Tue.&Fri.- Sat.) Radiation Physics [04 PERIODS/WEEK]	M.Sc -I(2 <sup>nd</sup> Sem) Practical (Wed) [03 PER./WEEK] (Seminar-Sat) [01 PER./WEEK]	M.Sc -II(4 <sup>th</sup> Sem) Practical (Thu.-Fri.) [08 PER./WEEK]
	01.09.2022	-----	UNIT -III Introduction to Power Supplies	-----		Exp: Gamma Ray Spectrometer Group –I
	02.09.2022	-----		Radiation and need for its measurement	-----	Exp: Gamma Ray Spectrometer Group –II
	03.09.2022	UNIT-I Hamilton's variational principle		Physical features of radiation	-----	-----
	04.09.2022	Sunday				
1.	05.09.2022	Derivation of Lagrange's equations	-----	Conventional sources of radiation	-----	

2	06.09.2022	extension of the non-holonomic systems	-----	Exposure to natural radiation: external to the body	-----	
	07.09.2022	method of undetermined multiplier	Regulated Power Supply	-----	Exp: Michelson Interferometer Group-I	-----
	08.09.2022	-----	Zener Regulated Power Supply	-----		Exp: Gamma Ray Spectrometer Group –III
	09.09.2022	-----		Radiation from cosmic rays	-----	Exp: Gamma Ray Spectrometer Group –IV
	10.09.2022	velocity dependent forces		Radiation from solar rays	Seminar	-----
	11.09.2022	Sunday				
2.	12.09.2022	dissipation function	-----	Internal exposure to the body	-----	
	13.09.2022	conservation laws	-----	Radioactivity arising from technological development	-----	
	14.09.2022	Illustrative applications (like simple pendulum .	Series and Shunt Regulated Power Supply	-----	Exp: Michelson Interferometer Group-II	-----
3						

	15.09.2022	-----	Three Terminal ICs Power Supply.	-----		Exp: Gamma Ray Spectrometer Group –V	
	16.09.2022	-----		Possible health hazards from nuclear and laser radiations	-----	Exp: Gamma Ray Spectrometer Group –VI	
	17.09.2022	Illustrative applications (coplanar double pendulum)		Maximum permissible level of radiation.	Seminar	-----	
	18.09.2022	Sunday					
3.	19.09.2022	Pendulum with moving support.	-----	Radiation quantities and units of energy flux	-----		
	20.09.2022	Revision of Unit - I	-----	Energy fluence	-----		
4	21.09.2022	UNIT-II Two- body central forces problems Introduction	Switched Mode Power Supply : Design Principle and Application.	-----	Exp: Michelson Interferometer Group-III	-----	

	22.09.2022		Amplifiers : Different Terms used in Amplifiers such as Signal, Source, Input, Output, Voltage and Current Gain, Power Gain, Decibel, Input and Output Impedance.	-----		Exp: Gamma Ray Spectrometer Group –VII
	23.09.2022	Sahidi Diwas				
	24.09.2022	Classification of orbits		Cross-section, linear energy transfer	Seminar	-----
	25.09.2022	Sunday				
	26.09.2022	Maharaja Aggarsain Jayanti				
4.	27.09.2022	Virial theorem	-----	Specific energy and absorbed dose	-----	
	28.09.2022	Differential equations for orbits	Classification according to the Frequency Response		Exp: Michelson Interferometer Group-IV	
5	29.09.2022	-----	RC Coupled Class A Common Emitter Amplifier	-----		Exp: Gamma Ray Spectrometer Group –VIII

30.09.2022	-----		Relative effectiveness of radiation, dose equivalent	-----	Exp: Gamma Ray Spectrometer Group –IX
01.10.2022	Talent Show				
02.10.2022	Sunday				
03.10.2022	Virial theorem	-----	Revision of Unit -I	-----	
04.10.2022	Kepler's laws of planetary motion and their derivation	-----	UNIT -II Biological effects of radiation: Dose-response characteristics	-----	
05.10.2022	Dussehra				
06.10.2022	-----	Introduction to the Class B Operation	-----		Exp: Hysteresis Group -I
07.10.2022	-----		Direct and indirect action	-----	Exp: Hysteresis Group -II
08.10.2022	Rutherford scattering (derivation of differential and total cross section)		Acute effects and Delayed effects	Seminar	-----
09.10.2022	Sunday				

	10.10.2022	Scattering : scattering in laboratory and centre of mass frames	-----	Cumulative effect	-----	
6	11.10.2022	scattering cross sections	-----	Accidental exposure	-----	
	12.10.2022	Introduction to Rutherford scattering	Feed back in Amplifier : Effect of Negative Feedback on Amplifier Performance	-----	Exp: Michelson Interferometer Group-V	-----
	13.10.2022	Karva Chouth				
	14.10.2022			Radiation induced chemical changes in tissues	-----	Exp: Hysteresis Group -III
	15.10.2022	Rutherford scattering- (derivation of differential cross section)		Radiation protection procedures (diagnostics and therapy).	Seminar	
	16.10.2022	Sunday				
	17.10.2022	Revision of UNIT II	-----	Basic radiation safety criteria	-----	

7	18.10.2022	Doubt Session	-----	Protection from direct radiation	-----	
	19.10.2022	UNIT -III Introduction to Kinematics and dynamics of rigid body	Push - Pull Amplifiers	-----	Exp: Michelson Interferometer Group-VI	-----
	20.10.2022	Kinematics and dynamics of rigid body explanation	Phase Splitter circuits	-----		Exp: Hysteresis Group -IV
	21.10.2022	Inter-zonal youth Festival				
	22.10.2022 to 26.10.2022	Diwali Holidays				
	27.10.2022	Bhaiya Dooj (Local Holiday)				
8	28.10.2022	-----		Energy deposition	-----	Exp: Hysteresis Group -V
	29.10.2022	Orthogonal transformations		Effect of distance and shielding	Seminar	-----
	30.10.2022	Sunday				
	31.10.2022	Euler angles.	-----	Protection from contamination, Preparation of a safe radiation area		
	01.11.2022	Haryana Day				
	02.11.2022	Euler theorem	Complementary Push Pull	-----	Exp: Michelson Interferometer Group-VII	-----

	03.11.2022		Thermal runaway and Heat sinks.	-----		Exp: Hysteresis Group -VI	
	04.11.2022			Radioactive waste disposal and management	-----	Exp: Hysteresis Group -VII	
	05.11.2022	Angular momentum		Type of radioactive waste	Seminar	-----	
	06.11.2022	Sunday					
9	07.11.2022	Rotational K.E	-----	Determine the resolving power of a prism	-----		
	08.11.2022	Principle axis transformations	-----	Airborne waste, Solid and liquid waste,	-----		
	09.11.2022	Euler equations	Revision of Unit I	-----	Exp:To Find the slit width using Diffraction Group-I	-----	
	10.11.2022		UNIT - IV Oscillators : Positive Feedback and Barkhausen Criteria			Exp: Hysteresis Group -VIII	
	11.11.2022		.	Assessment of Hazard	-----	Exp: Hysteresis Group -IX	
	12.11.2022	Euler equations derivation		Revision of Unit-II	Seminar	-----	
	13.11.2022	Sunday					



10	14.11.2022	Conservation theorems	-----	UNIT -III Basic Principles of patient monitoring and diagnostic using radiation and isotopes	-----	
	15.11.2022	Motion of a rigid body	-----	Principles of radiation therapy. Physics of diagnostic X - rays	-----	
	16.11.2022	Sessional Test of UNIT-I & II	Sessional Test of UNIT-III	-----	Exp:To Find the slit width using Diffraction Group-II	-----
	17.11.2022		Phase Shift Oscillators, Wien Bridge Oscillator and Tuned Oscillator	-----		Revision of Exp: Gamma Ray Spectrometer Exp: Hysteresis
	18.11.2022			Production and Absorption of X-rays, X-ray imaging, X-ray fluroscopy. Computerised Axial Tomography (CAT)	-----	Revision of Exp: Gamma Ray Spectrometer Exp: Hysteresis
	19.11.2022	Symmetric top.		Ultrasound Scanning, Ultrasound picture of the body, Ultrasound to measure motion	Seminar	
	20.11.2022	Sunday				
	21.11.2022	Revision of Unit III	-----	Physiological effects of ultrasound in therapy	-----	

11	22.11.2022	Doubt Session of Unit III	-----	Electrocardiography (ECG), Pacemakers,	-----		
	23.11.2022	Unit IV Legendre transformations	Hartley, Colpits - Oscillators, Crystal Oscillator.		Exp: To Find the slit width using Diffraction Group-III		
	24.11.2022		Operational Amplifier: Differential Amplifier, OPAMP inverting and Non-inverting Inputs, Virtual Ground, Parameters such as Input Impedance, Output Impedance	-----		Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis	
	25.11.2022			Gamma Camera and Position Emission Tomography	-----	Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis	
	26.11.2022	Hamilton's equations		-----	Seminar	-----	
	27.11.2022	Sunday					
	28.11.2022	Cyclic coordinates	-----	Magnet Resonance Imaging (MRI)	-----		
29.11.2022	Conservation theorems	-----	Revision of Unit-III				

12	30.11.2022	Ruth's Procedure	Comparator, Differentiator and Integrator		Exp: To Find the slit width using Diffraction Group-IV	
	01.12.2022		Instrumentation Amplifier, PLL (Phase Lock Loop).			Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis
	02.12.2022			-----		Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis
	03.12.2022	canonical transformations		-----		
	04.12.2022	Sunday				
13	05.12.2022	Poisson brackets	-----	UNIT –IV Basic features of radiation dose measurement	-----	
	06.12.2022	Poisson brackets (with illustrative evaluations)	-----	Brief introduction and principles of ionization chamber, Generation of charge	-----	
	07.12.2022	Poincare invariants	Non-linear Applications of OPAMP		Exp: To Find the slit width using Diffraction Group-V	
	08.12.2022		Sessional Test of UNIT-III & IV	-----		Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis

	09.12.2022			Ionization and exposure, Electron equilibrium	-----	Revision of Exp: Gamma Ray Spectrometer and Exp: Hysteresis
	10.12.2022	Hamilton - Jacobi method	-----	-----	Seminar	-----
	11.12.2022	Sunday				
14	12.12.2022	Examples of Hamilton Jacobi method	-----	Thermoluminescence : Principles and methods, Basic concepts	-----	
	13.12.2022	Harmonic oscillator	-----	Thermoluminescence emission process, characteristic of TL, Glow Curves and Spectra of TL	-----	
	14.12.2022	Example of harmonic oscillator problem	Discussion of problems from complete syllabus	-----	Exp: To Find the slit width using Diffraction Group-VI	-----
	15.12.2022	-----	Discussion of problems from complete syllabus	-----		Viva and File checking

	16.12.2022	-----		Solid state Nuclear Track Detector (SSNTD), Track processing methods, Chemical track etching	-----	Viva and File checking
	17.12.2022	Action angle variables and applications to harmonic oscillator problem		Track dyeing, Track decoration, Etch track evolution, Plastic detectors.	Seminar	-----
	18.12.2022	Sunday				
15	19.12.2022	Brief Revision of Unit-I and II	-----	ESR Dosimeter: basic principle, and application	-----	
	20.12.2022	Brief Revision of Unit-III and IV	-----	Revision of Unit-IV	-----	
	21.12.2022	Discussion of problems from complete syllabus	Brief Revision of Unit-III and IV		Exp: To Find the slit width using Diffraction Group-VII	-----
	22.12.2022	.	Discussion of problems from complete syllabus	-----		Viva and File checking
	23.12.2022			Brief Revision of Unit-I and II		Viva and File checking

	24.12.2022	Discussion of problems from complete syllabus		Brief Revision of Unit-III and IV	Seminar	-----
	25.12.2022	Sunday				