

POLBA MAHAVIDYALAYA
Department Lesson Plan 2023-2024

Name of the department :Department of Physics

Name of the programme :B.Sc(General)(CBCS)

Name of the Course (Subject) :Physics

Period of the Lesson Plan : JULY 2023 TO JUNE 2024

ODD SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
JULY'23 TO JUNE'24	SEM-III	GCC-1C/ GE3	Kinetic theory of Gases,derivation of Maxwell's velocity distribution law,mean free path,Thermodynamic potentials,Clausius-Clapeyron equation	20	Sibaji Das	
			Theory of radiation, Planck's law,Rayleigh-Jeans law, Statistical mechanics	18	Sibaji Das	
			Laws of thermodynamics,Carnot's cycle, various thermodynamical processes	22	Sibaji Das	
		SEC1	Geothermal energy, Wind energy harvesting, Ocean energy	10	Sibaji Das	
			Fossil fuels and Alternate Sources of energy, Solar energy	9	Sibaji Das	
			Hydro energy, Piezoelectric energy harvesting,Electromagnetic Energy		Sibaji Das	
	SEM-V	DSE-1A	General properties of nuclei,constituents and their intrinsic properties, B/A plot, Nuclear reactions, kinematics, Q-value	24	Sibaji Das	
			Nuclear models: Liquid drop model, shell model, radioactive decay: alpha, beta, gamma decay, Detector for nuclear radiation	24	Sibaji Das	
			Interaction of nuclear radiation with matter , Particle accelerator,Particle physics	27	Sibaji Das	

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EVEN SEMESTER

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JULY'23 TO JUNE'24	SEM-IV	GCC-1D/ GE4	Superposition of collinear harmonic oscillations,superposition of 2 perpendicular harmonic oscillations, wave motion general, sound	22	Sibaji Das	
			Diffraction, Fluids	19	Sibaji Das	
			Wave optics, Interference by division of wave front,Michelson's interferometer,Polarization	19	Sibaji Das	
	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates	22	Sibaji Das	
			Semiconductor devices and amplifiers, Bipolar Junction Transistor	17	Sibaji Das	
			sinusoidal oscillators,Instrumentations	17	Sibaji Das	
		SEC-4	Generators and transformers,electrical motors	7	Sibaji Das	
			Solid state devices, electrical protection, electrical wiring	12	Sibaji Das	
			Basic electricity principle,understanding electrical circuits,electrical drawing and symbols	11	Sibaji Das	

POLBA MAHAVIDYALAYA
Department Lesson Plan 2023-2024

Name of the department :Department of Physics

Name of the programme :B.Sc Three Year Major And Minor In Physics(NEP-2020)

Name of the Course (Subject) :Physics

Period of the Lesson Plan : JULY 2023 TO JUNE 2024

ODD SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
JULY'23 TO JUNE'24	SEM-I	MAJOR-I: PHYS1011	Calculus: Recapitulation: Limits, Continuity, Average and instantaneous quantities, Differentiation. Plotting functions. Intuitive ideas of continuous, differentiable etc. functions and plotting of curves.	3	Sibaji Das	
			First Order and Second Order Differential equations	9	Sibaji Das	
			Calculus of functions of more than one variable: Partial derivatives, Exact and inexact differentials.	6	Sibaji Das	
			Recapitulation of vectors, Vector Differentiation, Vector Integration, Orthogonal Curvilinear Coordinates	27	Sibaji Das	
		MINOR-I: PHYS1021: MATHEMATICAL PHYSICS-I	Calculus: Recapitulation: Limits, Continuity, Average and instantaneous quantities, Differentiation. Plotting functions. Intuitive ideas of continuous, differentiable etc. functions and plotting of curves.	3	Sibaji Das	
			First Order and Second Order Differential equations	9	Sibaji Das	
			Calculus of functions of more than one variable: Partial derivatives, Exact and inexact differentials.	6	Sibaji Das	
		MULTI- DISCIPLINARY-1: PHYS1031	Unit, Dimensions and Measurement of Physical Quantities, Kinematics, Scalar and vector quantities	10	Sibaji Das	
			Motion in a plane, Laws of Motion, Work, Energy and Power, System of Particles and Rotational Motion, Gravitation	10	Sibaji Das	
				25	Sibaji Das	
		SEC-1:PHYS1051	Fossil Fuels and Alternate Sources of Energy, Solar energy, Wind Energy harvesting, Ocean Energy	26	Sibaji Das	
			Geothermal Energy, Hydro Energy, Piezoelectric Energy harvesting, Electromagnetic Energy Harvesting	19	Sibaji Das	

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EVEN SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
JULY'23 TO JUNE'24	SEM-II	MAJOR PHYS2011 II:	Fundamentals of Dynamics, Work and Energy, Collisions	13	Sibaji Das	
			Rotational Dynamics, Elasticity, Gravitation and Central Force Motion, Motion of a particle under a central force field,	22	Sibaji Das	
			Oscillations, Non-Inertial Systems	10	Sibaji Das	
		MINOR II : PHYS2021	Fundamentals of Dynamics, Work and Energy, Collisions	13	Sibaji Das	
			Rotational Dynamics, Elasticity, Gravitation and Central Force Motion, Motion of a particle under a central force field,	22	Sibaji Das	
			Oscillations, Non-Inertial Systems	10	Sibaji Das	
		MULTI-DISCIPLINARY-2: PHYS2031	General Properties of Matter, Thermal Properties of Matter	21	Sibaji Das	
			Behavior of Perfect Gases and Kinetic Theory of Gases, Thermodynamics	16	Sibaji Das	
			Oscillations and Waves	8	Sibaji Das	
		SEC-2: PHYS2051	Basic Electricity Principles, Understanding Electrical Circuits, Electrical Drawing and Symbols	18	Sibaji Das	
			Generators and Transformers, Electric Motors, Solid-State Devices, Electrical Protection, Electrical Wiring	22	Sibaji Das	