

POLBA MAHAVIDYALAYA
Department Lesson Plan 2021-2022

Name of the department :Department of Physics

Name of the programme :B.Sc(General)

Name of the Course (Subject) :Physics

Period of the Lesson Plan : JULY 2021 TO JUNE 2022

ODD SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
July 21 to Feb.'22	SEM-I	GCC-1A/GE1	Conservation of momentum,work and energy conservation,motion of rockets, Rotationalmotion, Newton's law ofGravitation, Kepler's laws,Satellite in circular orbit andapplications. Geosynchronous orbits, Weightlessness	19	Dr. Rana Nandi	3rd week of Dec.2021
			Oscillation, Elasticity, Special theory of relativity	21	Dr. Rana Nandi	
			Vectors, Ordinary Differential Equations, Laws of Motion	20	Sibaji Das	
	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	Dr. Rana Nandi	2 nd week of Dec. 2021
			Theory of radiation, Planck's law,Rayleigh-Jeans law, Statistical mechanics	18	Dr. Rana Nandi	
			Laws of thermodynamics,Carnot's cycle, various thermodynamical processes	22	Sibaji Das	
		SEC1	Geothermal energy, Wind energy harvesting, Ocean energy	10	Dr. Rana Nandi	
		Fossil fuels and Alternate Sources of energy, Solar energy	9	Dr. Rana Nandi		
		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	Dr. Rana Nandi	1 st week of Dec. 2021
			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	Dr. Rana Nandi	
SEC 3		Use of computational methods to solve physical problems	10	Dr. Rana Nandi		
Use of various computer languages like FORTAN, Linux.Control of various statements and understand of introductory level of LaTeX and its uses.		21	Dr. Rana Nandi			
Understand rigorously all theory by all hands-on exercise.		9	Dr. Rana Nandi			

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EVEN SEMESTER

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Mar'21 to July'22	SEM-II	GCC-1B/ GE2	Magnetism: Biot-Savart's law and application, Magnetic properties of materials, Electromagnetic induction	16	Dr. Rana Nandi	3 rd week of May, 2022
			Electrostatics: Gauss's theorem, application, electric potential, Capacitance of different conductor, Gauss's theorem in dielectrics	22	Sibaji Das	
			Maxwell's equation, EM wave propagation, Vector analysis: review of vector algebra, divergence, curl and their significances	22	Dr. Rana Nandi	
	SEM-IV	GCC-1D/ GE4	Superposition of collinear harmonic oscillations, superposition of 2 perpendicular harmonic oscillations, wave motion general, sound	22	Dr. Rana Nandi	2 nd week of May, 2022
			Diffraction, Fluids	19	Dr. Rana Nandi	
			Wave optics, Interference by division of wave front, Michelson's interferometer, Polarization	19	Sibaji Das	
		SEC 2	Understand the basic idea about atmosphere and weather..	10	Dr. Rana Nandi	
			Determine how to produce wind also measuring its speed and direction and also understand about the humidity clouds and rainfall.	16	Dr. Rana Nandi	
			Describe the global wind system, thunderstorm and tropical cyclones also define the climate, its change due to global warming and pollution.	14	Dr. Rana Nandi	
	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates	22	Sibaji Das	1 st week of May, 2022
			Semiconductor devices and amplifiers, Bipolar Junction Transistor	17	Sibaji Das	
			sinusoidal oscillators, Instrumentations	17	Dr. Rana Nandi	
SEC-4		Generators and transformers, electrical motors	7	Dr. Rana Nandi		
		Solid state devices, electrical protection, electrical wiring	12	Dr. Rana Nandi		
		Basic electricity principle, understanding electrical circuits, electrical drawing and symbols	11	Sibaji Das		

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ODD SEMESTER

Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
Aug'21 to Feb.'22	SEM-I	GCC-1A/ GE1		Conservation of momentum,work and energy conservation,motion of rockets, Rotationalmotion, Newton's law ofGravitation, Kepler's laws,Satellite in circular orbit andapplications. Geosynchronous orbits, Weightlessness	No student		
				Oscillation, Elasticity, Special theory of relativity	No student		
				Vectors, Ordinary Differential Equations, Laws of Motion	No student		
	SEM-III	GCC-1C/ GE3		Kinetic theory of Gases,derivation of Maxwell's velocity distribution law,mean free path,Thermodynamic potentials,Clausius-Clapeyron equation	No student		
				Theory of radiation, Planck's law,Rayleigh-Jeans law, Statistical mechanics	No student		
				Laws of thermodynamics,Carnot's cycle, various thermodynamical processes	No student		
		SEC1		Geothermal energy, Wind energy harvesting, Ocean energy	No student		
				Hydro energy, Piezoelectric energy harvesting,Electromagnetic Energy	No student		
				Fossil fuels and Alternate Sources of energy, Solar energy	No student		

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Aug'20 to Feb.'21	SEM-V	DSE-1A	General properties of nuclei, constituents and their intrinsic properties, B/A plot, Nuclear reactions, kinematics, Q-value	All completed		06.12.2021	
			Nuclear models: Liquid drop model, shell model, radioactive decay: alpha, beta, gamma decay, Detector for nuclear radiation	All completed			
			Interaction of nuclear radiation with matter , Particle accelerator, Particle physics	All completed			
		SEC 3		Use of computational methods to solve physical problems	No student		
				Use of various computer languages like FORTAN, Linux. Control of various statements and understand of introductory level of LaTeX and its uses.	No student		
				Understand rigorously all theory by all hands-on exercise.	No student		

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Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
Mar'23 to July'23	SEM-II	GCC-1B/ GE2		Magnetism: Biot-Savart's law and application, Magnetic properties of materials, Electromagnetic induction	No student		
				Electrostatics: Gauss's theorem, application, electric potential, Capacitance of different conductor, Gauss's theorem in dielectrics	No student		
				Maxwell's equation, EM wave propagation, Vector analysis: review of vector algebra, divergence, curl and their significances	No student		
	SEM-IV	GCC-1D/ GE4		Superposition of collinear harmonic oscillations, superposition of 2 perpendicular harmonic oscillations, wave motion general, sound	No student		
				Diffraction, Fluids	No student		
				Wave optics, Interference by division of wave front, Michelson's interferometer, Polarization	No student		
		SEC 2		Understand the basic idea about atmosphere and weather..	No student		
				Determine how to produce wind also measuring its speed and direction and also understand about the humidity clouds and rainfall.	No student		
				Describe the global wind system, thunderstorm and tropical cyclones also define the climate, its change due to global warming and pollution.	No student		

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Mar'21 to July'21	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates		All completed	13.05.2022	
			Semiconductor devices and amplifiers, Bipolar Junction Transistor		All completed		
			sinusoidal oscillators,Instrumentations		All completed		
	SEM-VI	SEC-4		Generators and transformers,electrical motors	No student		
				Solid state devices, electrical protection, electrical wiring	No student		
				Basic electricity principle,understanding electrical circuits,electrical drawing and symbols	No student		