

POLBA MAHAVIDYALAYA
Department Lesson Plan 2020-2021

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 2020 TO JUNE 2021

ODD SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
July 20 to Feb.'21	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.2020
			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. 2020
			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. 2020
			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'21	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, 2021
			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, 2021
			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, 2021
			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'20 to Feb.'21	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	All completed		21.12.2020	
			Oscillation, Elasticity, Special theory of relativity	All completed			
			Vectors, Ordinary Differential Equations, Laws of Motion	All completed			
	SEM-III	GCC-1C/ GE3	Kinetic theory of Gases,derivation of Maxwell's velocity distribution law,mean free path,Thermodynamic potentials,Clausius-Clapeyron equation	All completed		14.12.2020	
			Theory of radiation, Planck's law,Rayleigh-Jeans law, Statistical mechanics	All completed			
			Laws of thermodynamics,Carnot's cycle, various thermodynamical processes	All completed			
		SEC1		Geothermal energy, Wind energy harvesting, Ocean energy	No student		
				Hydro energy, Piezoelectric energy harvesting,Electromagnetic Energy			
				Fossil fuels and Alternate Sources of energy, Solar energy			

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Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
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		05.12.2020	
			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	All completed		07.12.2020	
		Use of various computer languages like FORTAN, Linux. Control of various statements and understand of introductory level of LaTeX and its uses.	All completed				
		Understand rigorously all theory by all hands-on exercise.	All completed				

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Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
Mar'21 to July'21	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	All completed		11.05.2021	
			Diffraction, Fluids	All completed			
			Wave optics, Interference by division of wave front, Michelson's interferometer, Polarization	All completed			
		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		

	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates		All completed	05.05.2021	
			Semiconductor devices and amplifiers, Bipolar Junction Transistor		All completed		
			sinusoidal oscillators,Instrumentations		All completed		

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Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
Mar'21 to July'21	SEM-VI	SEC-4	Generators and transformers,electrical motors		All completed	06.05.2021	
			Solid state devices, electrical protection, electrical wiring		All completed		
			Basic electricity principle,understanding electrical circuits,electrical drawing and symbols		All completed		