POLBA MAHAVIDYALAYA
Department Lesson Plan 2019-2020

Name of the department :Department of Physics
Name of the prgramme :B.Sc(General)
Name of the Course (Subject) :Physics
Period of the Lesson Plan : JULY 2019 TO JUNE 2020

ODD SEMESTER

Academic Period	Class	Paper	Topic to be covered	No. of lectures	Name of the Teacher	Date of Internal Assessment
July 19 to Feb.'20	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	Sibaji Das	3rd week of Dec.2019
			Oscillation, Elasticity, Special theory of relativity	21	Sibaji Das	
			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	Sibaji Das	2nd week of Dec. 2019
			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	Planck's quantum, Planck's constant and light as a collection of photons De Broglie wavelength and matter waves; Davisson – Germer experiment.	8	Sibaji Das	1st week of Dec. 2019
			Position measurement- gamma ray microscope thought experiment .Problems with Rutherford model- instability of atoms and observation of discrete atomic spectra. Wave-particle duality, Two slit interference experiment with photons, atoms and particlesphysical interpretation of wavefunction,.	24	Sibaji Das	
			One dimensional infinitely rigid box, Radioactivity: stability of nucleus; Fission and fusion-mass deficit.	27	Sibaji Das	
		SEC 3	Use of computational methods to solve physical problems	10	Sibaji Das	
			Use of various computer languages like FORTAN, Linux.Control of various statements and understand of introductory level of LaTeX and its uses.	21	Sibaji Das	
			Understand rigorously all theory by all hands-on exercise.	9	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
Mar'20 to July'20	SEM-II	GCC-1B/ GE2	Magnetism: Biot-Savart's law and application, Magnetic properties of materials,Electromagnetic induction	16	Sibaji Das	3rd week of May,2020
			Electrostatics: Gauss's theorem,application, electric potential,Capacitance of differentconductor, 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	Sibaji Das	
	SEM-IV	GCC-1D/ GE4	Superposition of collinear harmonic oscillations,superposition of 2 perpendicular harmonic oscillations, wave motion general, sound	22	Sibaji Das	2nd week of May, 2020
			Diffraction, Fluids	19	Sibaji Das	
			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	Sibaji Das	
			Determine how to produce wind also measuring its speed and direction and also understand about the humidity clouds and rainfall.	16	Sibaji Das	
			Describe the global wind system, thunderstorm and tropical cyclones also define the climate, its change due to global warming and pollution.	14	Sibaji Das	
	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates	22	Sibaji Das	1st week of May, 2020
			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	

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Implementation of Department Lesson Plan 2019-2020

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Name of the Course (Subject) :Physics
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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'19 to Feb.'20	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		**06.12.2019**	
			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		**13.12.2019**	
			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'19 to Feb.'20	SEM-V	DSE-1A	Planck's quantum, Planck's constant and light as a collection of photons De Broglie wavelength and matter waves; Davisson – Germer experiment.	All completed		**06.12.2019**	
			Position measurement- gamma ray microscope thought experiment .Problems with Rutherford model- instability of atoms and observation of discrete atomic spectra. Wave-particle duality, Two slit interference experiment with photons, atoms and particlesphysical interpretation of wavefunction,.	All completed			
			One dimensional infinitely rigid box, Radioactivity: stability of nucleus; Fission and fusion-mass deficit.	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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EVEN SEMESTER

Academic Period	Class	Paper	Topic covered	Topic Not covered	Reason for Not covered	Date of Internal Assessment	Remarks
Mar'20 to July'20	SEM-II	GCC-1B/ GE2	Magnetism: Biot-Savart's law and application, Magnetic properties of materials,Electromagnetic induction	All completed		**21.05.2020**	
			Electrostatics: Gauss's theorem,application, electric potential,Capacitance of differentconductor, Gauss's theorem in dielectrics	All completed			
			Maxwell's equation, EM wave propagation, Vector analysis:review of vector algebra, divergence, curl and their significances	All completed			
	SEM-IV	GCC-1D/ GE4	Superposition of collinear harmonic oscillations,superposition of 2 perpendicular harmonic oscillations, wave motion general, sound	All completed		**14.05.2020**	
			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		

						06.05.2020	
	SEM-VI	DSE-1B	Operational Amplifiers, digital circuits and Gates	All completed			
			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'20 to July'20	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		