

Shahid Matangini Hazra Government General Degree College for Women

Lesson Plan for the academic session 2022-2023

Department: **PHYSICS**

Semester: First

B.Sc. Honours

Core Course (CC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Sayan Bag	Mathematical Physics (C1T)	Calculus	12	64
		Vector Calculus	13	
		Orthogonal Curvilinear Coordinates	13	
Piyasi Biswas	Mathematical Physics (C1T)	Introduction to probability	13	
		Dirac Delta function and its properties	13	
Mahadeb Pal	Mechanics (C2T)	Fundamentals of Dynamics	06	64
		Work and Energy	08	
		Collisions	04	
		Rotational Dynamics	06	
		Elasticity	06	
Parna Roy	Mechanics (C2T)	Fluid Motion	04	
		Gravitation and Central Force Motion	09	
		Non-Inertial Systems	09	
		Special Theory of Relativity	10	

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Lesson Plan for the academic session 2022-2023

Department: **PHYSICS**

Semester: First

B.Sc. General

Core Course-DSC

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of classes required to complete the assignment
<b>Sayan Bag</b>	<b>Mechanics DSC-1A (CC1)</b>	<b>Vectors</b>	<b>04</b>	<b>64</b>
		<b>Ordinary Differential Equations</b>	<b>08</b>	
		<b>Laws of Motion</b>	<b>10</b>	
		<b>Momentum and Energy</b>	<b>04</b>	
<b>Mahadeb Pal</b>	<b>Mechanics DSC-1A (CC1)</b>	<b>Rotational Motion</b>	<b>06</b>	
		<b>Gravitation</b>	<b>08</b>	
		<b>Oscillations</b>	<b>08</b>	
		<b>Elasticity</b>	<b>08</b>	
		<b>Special Theory of Relativity</b>	<b>08</b>	

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Lesson Plan for the academic session 2022-2023

Department: **PHYSICS**

Semester: Third

B.Sc. Honours

Core Course (CC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Parna Roy	Mathematical Physics (C5T)	Fourier Series	10	64
		Frobenius Method and Special Functions	15	
		Some Special Integrals	9	
		Variational calculus in physics	15	
		Partial Differential Equations	15	
Mahadeb Pal	Thermal Physics (C6T)	Introduction to Thermodynamics	20	64
		Thermodynamic Potentials	12	
		Maxwell's Thermodynamic Relations	12	
		Kinetic Theory of Gases	20	
Piyasi Biswas	Digital Systems and Applications (C7T)	Integrated Circuits	10	64
		Digital Circuits	10	
		Boolean algebra	10	
		Data processing circuits	8	
		Circuits	6	
		Timers	5	
		Shiftregisters	7	
		Counters (4 bits)	6	
		Computer Organization	2	

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Semester: Third

B.Sc. Honours

Skill Enhancement Course (SEC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Sayan Bag	Electrical Circuits and Network Skills (SEC1T)	Basic Electricity Principles	2	16
		Understanding Electrical Circuits	2	
		Electrical Drawing and Symbols	2	
		Generators and Transformers	2	
		Electric Motors	2	
		Solid-State Devices	2	
		Electrical Protection	2	
		Electrical Wiring	2	

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Department: **PHYSICS**

Semester: Third

B.Sc. Honours

Generic Elective (GE)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Sayan Bag	Solid State Physics (GE3T)	<b>Crystal Structure</b>	<b>10</b>	<b>60</b>
		<b>Elementary Lattice Dynamics</b>	<b>10</b>	
		<b>Magnetic Properties of Matter</b>	<b>10</b>	
		<b>Dielectric Properties of Materials</b>	<b>10</b>	
		<b>Elementary band theory</b>	<b>10</b>	
		<b>Superconductivity</b>	<b>10</b>	
			<b>08</b>	
<b>08</b>				

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Department: **PHYSICS**

Semester: Third

B.Sc. General

Core Course-DSC

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Parna Roy	Thermal Physics and Statistical Mechanics DSC-1C(CC3)	Thermodynamic Description of system	12	64
		Thermodynamic Potentials	12	
		Kinetic Theory of Gases	12	
		Theory of Radiation	14	
		Statistical Mechanics	14	

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Department: **PHYSICS**

Semester: Third

B.Sc. General

Skill Enhancement Course (SEC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Parna Roy	Computational Physics SEC-1T	Introduction	04	16
		Algorithms and Flowcharts	04	
		Scientific Programming	04	
		Control Statements	04	

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Lesson Plan for the academic session 2022-2023

Department: **PHYSICS**

Semester: Fifth

B.Sc. Honours

Core Course (CC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Parna Roy	Quantum Mechanics and Applications (C11)	Schrodinger equation:	16	64
		General discussion of bound states in an arbitrary potential	14	
		Quantum theory of hydrogen-like atoms	10	
		Atoms in Electric & Magnetic Fields	08	
		Atoms in External Magnetic Fields	06	
		Many electron atoms	10	
Sayan Bag	Solid State Physics (C12)	Crystal Structure	10	64
		Elementary Lattice Dynamics	12	
		Magnetic Properties of Matter	12	
		Dielectric Properties of Materials	08	
		Ferro electric Properties of Materials	06	
		Elementary band theory	08	
		Superconductivity	08	



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Department: **PHYSICS**

Semester: Fifth

B.Sc. Honours

Discipline Specific Elective (DSE)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Piyasi Biswas	Classical Dynamics DSE-1	Classical Mechanics of Point Particles	20	64
		Small Amplitude Oscillations	10	
		Special Theory of Relativity	24	
		Fluid Dynamics	10	
Mahadeb Pal	Nuclear and Particle Physics DSE-2	General Properties of Nuclei	08	64
		Nuclear Models	10	
		Radioactivity decay	08	
		Nuclear Reactions	08	
		Interaction of Nuclear Radiation with matter	08	
		Detector for Nuclear Radiations	08	
		Particle Accelerators	06	
		Particle physics	08	

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Department: **PHYSICS**

Semester: Fifth

B.Sc. General

Skill Enhancement Course (SEC)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of classes required to complete the assignment
Piyasi Biswas	Renewable Energy and Energy Harvesting Sec3	Fossil fuels and Alternate Sources of energy	02	16
		Solar energy	02	
		Wind Energy harvesting	02	
		Ocean Energy	02	
Sayan Bag	Renewable Energy and Energy Harvesting Sec3	Geothermal Energy	02	
		Energy:	02	
		Piezoelectric Energy harvesting	02	
		Electromagnetic Energy Harvesting	02	

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Semester: Fifth

B.Sc. General

Discipline Specific Elective (DSE)

Name of the teacher	Title of the teaching assignment	Dividing the assignment into number of units along with detailed lesson plan as per the university syllabus	Number of classes required to complete each unit	Total number of class
Mahadeb Pal	Elements of Modern Physics DSE-1A	Planck's quantum	08	64
		Problems with Rutherford model	08	
		Position measurement	08	
		Two slit interference experiment.	08	
Parna Roy	Elements of Modern Physics DSE-1A	One Dimensional infinitely Rigid Box	08	
		Size and structure of atomic nucleus and its relation with atomic weight	08	
		Radioactivity	08	
		Fission and fusion	08	