

# SIDDHINATH MAHAVIDYALAYA

## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester I (2018-19)</b>				
Discipline Specific Course (DSC-1A)				
<b>Syllabus DSC1AT: Mechanics</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Vectors	Pabitra Adhikary	July To November	3
	Ordinary Differential Equations			
<b>Unit-II</b>	Laws of Motion			4
	Momentum and Energy			
	Rotational Motion			
<b>Unit-III</b>	Gravitation			
<b>Unit-IV</b>	Oscillations			2
<b>Unit-V</b>	Elasticity			3
<b>Unit-VI</b>	Special Theory of Relativity	2		
<b>Syllabus DSC1AP: Mechanics (Lab)</b>				
<b>Unit-I</b>	Measurement of Length (or Diameter) Using Vernier Caliper, Screw Gauge and Travelling Microscope	Pabitra Adhikary	July To November	2

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## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester I (2018-19)</b>				
Generic Elective(GE) [Interdisciplinary for other Department]				
<b>Syllabus GE1T: ELEMENTS OF MODERN PHYSICS</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Planck's Quantum	Pabitra Adhikary	July To December	4
	Problems with Rutherford Model			
<b>Unit-II</b>	Position Measurement			2
<b>Unit-III</b>	Two Slit Interference Experiment			3
<b>Unit-IV</b>	One Dimensional Infinitely Rigid Box			3
<b>Unit-V</b>	Size and Structure of Atomic Nucleus and Its Relation with Atomic Weight			3
<b>Unit-VI</b>	Radioactivity			4
	Fission and Fusion			
<b>Syllabus GE1P: ELEMENTS OF MODERN PHYSICS (Lab)</b>				
<b>Unit-I</b>	To Determine Value of Boltzmann Constant Using V-I Characteristic of PN Diode.	Pabitra Adhikary	July To December	2
<b>Unit-II</b>	To Determine Value of Planck's Constant Using LEDs of atleast 4 Different Colours.			2

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## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester II (2018-19)</b>				
Discipline Specific Course (DSC-1B)				
<b>Syllabus DSC1BT: Electricity and Magnetism</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Vector Analysis	Pabitra Adhikary	November To January	2
<b>Unit-II</b>	Electrostatics			3
<b>Unit-III</b>	Magnetism			3
<b>Unit-IV</b>	Electromagnetic Induction			2
<b>Unit-V</b>	Maxwell's Equation and Electromagnetic Wave Propagation			3
<b>Syllabus DSC1BP: Electricity and Magnetism (Lab)</b>				
<b>Unit-I</b>	To Study a Parallel LCR Circuit and Determine Its (a) Anti-Resonant Frequency and (b) Quality Factor Q	Pabitra Adhikary	November To January	2

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## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester II (2018-19)</b>				
Generic Elective(GE) [Interdisciplinary for other Department]				
<b>Syllabus GE2T: Thermal physics and statistical mechanics</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Laws of Thermodynamics	Pabitra Adhikary	November To January	4
<b>Unit-II</b>	Thermodynamical Potentials			3
<b>Unit-III</b>	Kinetic Theory of Gases			2
<b>Unit-IV</b>	Theory of Radiation			2
<b>Unit-V</b>	Statistical Mechanics			3
<b>Syllabus GE2P:Thermal Physics and Statistical (Lab)</b>				
<b>Unit-I</b>	Measurement of Planck's Constant using Black Body Radiation	Pabitra Adhikary	November To January	2
<b>Unit-II</b>	To Determine the Coefficient of Thermal Conductivity of a Bad Conductor by Lee and Charlton's disc Method			2

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## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester III (2018-19)</b>				
Generic Elective(GE) [Interdisciplinary for other Department]				
<b>Syllabus GE3T: Solid State Physics</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Crystal Structure	Pabitra Adhikary	July To December	3
<b>Unit-II</b>	Elementary Lattice Dynamics			3
<b>Unit-III</b>	Magnetic Properties of Matter			4
<b>Unit-IV</b>	Dielectric Properties of Materials			4
<b>Unit-V</b>	Elementary Band Theory			3
<b>Unit-VI</b>	Superconductivity			3
<b>Syllabus GE3P: Solid State Physics (Lab)</b>				
<b>Unit-I</b>	Measurement of Susceptibility of Paramagnetic Solution (Quinck's Tube Method)	Pabitra Adhikary	July To December	2

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## TEACHING PLAN

### DEPARTMENT OF PHYSICS

<b>Teaching Plan of Semester IV (2018-19)</b>				
Generic Elective (GE) [Interdisciplinary for Other Department]				
<b>Syllabus GE4T: Digital, Analog Circuits and Instrumentation</b>		<b>TEACHER</b>	<b>Allotted Time</b>	<b>Class per week</b>
<b>Unit-I</b>	Digital Circuits	Pabitra Adhikary	December To February	4
<b>Unit-II</b>	Semiconductor Devices and Amplifiers			4
<b>Unit-III</b>	Operational Amplifiers (Black Box approach)			3
<b>Unit-IV</b>	Instrumentation			3
<b>Syllabus GE4P: Digital, Analog Circuits and Instrumentation (Lab)</b>				
<b>Unit-I</b>	To Study IV characteristics of PN diode, Zener and Light Emitting Diode	Pabitra Adhikary	December To February	2