PHYSICS (HONS.) 2020-21									
SEMESTER – I (syllabus-2019) July 20 – December 20									
Paper	**Core Course - 1**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 2**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-1-1TH	**Mathematical Physics – I (Theory)**	60		**PHS-A-CC-1-2TH**	**Mechanics (Theory)**	60			
	1. Calculus	20	GDP		1. Fundamentals of Dynamics	12	BC		
	2. Vector Algebra and Vector Calculus	25	DP		2. Work and Energy	8	BC	3rd week of November	1st week of December
	3. Matrices	15	SD		3. Gravitation and Central Force Motion	10	SD		
					4. Non-Inertial Systems	12	SN		
					5. Rotational Dynamics	12	SN		
					6. Fluid Motion	06	DP		
PHS-A-CC-1-1P	**Mathematical Physics - I (Practical)**	60	SN + GDP	**PHS-A-CC-1-2P**	**Mechanics (Practical)**	60	BC + SD		
	1. Introduction to plotting graphs with Gnuplot	09			1.Moment of Inertia & Modulus of Rigidity				
	2. Introduction to programming in python:				2. Moment of Inertia of a Flywheel			3rd week of November	1st week of December
	(a) Introduction	08			**3.** To determine the Young modulus, modulus of				

					rigidity and Poisson ratio of the material of a wire by Searle's Dynamic method.				
	(b) The python iterables data type	15			4. To determine the value of **g** using Bar Pendulum.				
	(c) Problems and applications	28			5. To determine the height of a building (or a suitable vertical height) using sextant.				
					6. Determination of Young's modulus of the material of a beam by the method of flexure.				

PHYSICS (HONS.) 2020-21									
SEMESTER – II(syllabus-2019) January 21 – June 21									
Paper	**Core Course - 3**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 4**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-2-3-TH	**Electricity and Magnetism (Theory)**	60		**PHS-A-CC-2-4-TH**	**Waves and Optics (Theory)**	60			
	1. Dirac delta function and it's properties	03	SN		1. Oscillations	08	BC		
	2. Electrostatics	12	SN		2.Superposition of Harmonic oscillations	04	BC	3rd week of November	1st week of December
	3. Dielectric properties of matter	06	GDP		3. Wave Motion	04	BC		
	4. Method of Images	04	DP		4. Superposition of Harmonic waves	09	BC		
	5. Electrostatic Energy	03	DP		5. Wave Optics	04	DP		
	6. The Magnetostatic Field	10	SD		6. Interference	10	DP		
	7. Magnetic properties of matter	07	SD		7. Interferometers	05	DP		
	8. Electro-magnetic induction	07	SD		8. Diffraction	16	GDP		
	9. Electrical circuits	08	SD						

PHS-A-CC-2-3-P	**Electricity and Magnetism (Practical)**	60	SN + SD	**PHS-A-CC-2-4-P**	**Waves and Optics (Practical)**	60	BC + GDP	3rd week of November	1st week of December
	1. Introduction and Overview				1. To determine the frequency of an electric tuning fork by Melde's experiment and verify $\lambda^2 - T$ law.				
	2. Basics of scientific computing				2. To study the variation of refractive index of the Material of a prism with wavelengths and hence the Cauchy constants using mercury/helium source.				
	3. Errors and error Analysis				3. To determine wavelength of sodium light using Fresnel Biprism.				
	4. Introduction to plotting graphs with Gnuplot / QtiPlot (or some other GUI based free software like Grace, Origin etc.)				4. To determine wavelength of sodium light/radius of plano convex lens using Newton's Rings.				
	5. Introduction to programming in python:				5. To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film.				
	6. Programs				6. Measurement of the spacing between the adjacent slits in a grating by measuring sinθvs graph of a certain order of grating spectra.				

PHYSICS (HONS.) 2020-21 SEMESTER – III (syllabus-2019) July 20 – December 20									
Paper	**Core Course - 5**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 6**	**No of Lectu -res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-3-5-TH	**Mathematical Physics - II (Theory)**	60		**PHS-A-CC-3-6-TH**	**Thermal Physics (Theory)**	60		3rd week of November	1st week of December
	1. Fourier Series	10	SD		1. Introduction to Thermodynamics	25	GDP		
	2. Frobenius Method and Special Functions	20	SD		2. Thermodynamic Potentials	15	GDP		
	3. Some Special Integrals	04	SD		3. Kinetic Theory of Gases	15	DP		
	4. Integrals Transforms	10	SN		4. Conduction of Heat	05	DP		
	5. Introduction to probability	06	SN						
	6. Partial Differential Equations	10	SN						
PHS-A-CC-3-5-P	**Mathematical Physics - II (Practical)**	60	SN + GDP	**PHS-A-CC-3-6-P**	**Thermal Physics (Practical)**	60	DP + BC	3rd week of November	1st week of December
	1. Introduction to numpy and scipy:-				1. Determination of the coefficient of thermal expansion of a metallic rod using an optical lever.				
	• the numpy array				2. Calibration of a thermocouple by direct measurement of the thermo-				

					emf using potentiometer and the constants.				
	• Using numpy for matrix operators (the 2D numpy array)				**3.** To determine the Coefficient of Thermal Conductivity of a bad conductor by Lee and Charlton's disc method.				
	• Scientific Applications				4. To determine the boiling point of a liquid using Platinum Resistance Thermometer (PRT).				
	2. Introduction to mathplotlib (Using the pyplot submodule)				5. To determine Temperature Coefficient of Resistance using Carey Foster bridge.				

Paper	**Core Course - 7**	**No of Lectu-res**	**Faculty**	**Paper**	**Skill Enhancement Courses – SEC-A**	**No of Lectu -res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-3-7-TH	**Modern Physics (Theory)**	60		**PHS-A-3-SEC-A-1 TH**	**Scientific Writing (Theory)**	15			
	1. Radiation and its nature.	15	BC		1. Introduction to L ATEX	2	SD		
	2. Basics of Quantum Mechanics	15	BC		2. Document classes	1	SD	3rd week of November	1st week of December
	3. Nuclear Structure	10	BC		3. Page Layout	2	SD		
	4. Interaction with and within nucleus	12	DP		4. List structures	1	SD		

	5. Lasers	08	DP		5. Representation of mathematical equations	5	SN		
					6. Customization of fonts	1	SN		
					7. Writing tables	2	SN		
					8. Figures	1	SN		
PHS-A-CC-3-7-P	**Modern Physics (Practical)**	60	BC + SD	**PHS-A-3-SEC-A-1 PR**	**Scientific Writing (Project/Practical)**		SD + SN		
	1. Measurement of Plank constant using LED.				1. Writing articles/ research papers/reports				
	2. Verification of Stefan's law of radiation by the measurement of voltage and current of a torch bulb glowing it beyond draper point.				2. Writing mathematical derivation			3rd week of November	1st week of December
	3. Determination of e/m of electrons by using bar magnet.				3. Writing Resume				
	4. To study the photoelectric effect: variation of photocurrent versus intensity and wavelength of light.				4. Writing any documentation of a practical done in laboratory with results, tables graphs.				
	5. To show the tunneling effect in tunnel diode using I-V characteristics.				5. Writing graphical analysis taking graphs plotted in gnuplot				

PHYSICS (HONS.) 2020-21									
SEMESTER – IV(syllabus-2019) January 21 – June 21									
Paper	**Core Course - 8**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 9**	**No of Lectu -res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-4-8-TH	**Mathematical Physics - III (Theory)**	60		**PHS-A-CC-4-9-TH**	**Analog Systems and Applications (Theory)**	60			
	1. Complex Analysis	20	SN		1. Circuits and Network	04	BC		
	2Variational calculus in Physics	20	SN		2. Semiconductor Diodes and application	08	BC	3rd week of November	1st week of December
	3. Special theory of Relativity	20	SD		3. Bipolar Junction transistors and biasing	10	BC		
					4. Field Effect transistors	05	BC		
					5. Regulated power supply	03	BC		
					6. Amplifiers	05	BC		
					7. Feedback amplifiers and OPAMP	15	GDP		
					8. Multivibrator	05	GDP		
					9. Oscillators	05	GDP		
PHS-A-CC-4-8-P	**Mathematical Physics – III (Practical)**	60	SN + SD	**PHSA-CC-4-9-P**	**Analog Systems and Applications (Practical)**	60	BC + DP		
	1. Exploring Gaussian Integrals and the delta function				1. To study the reverse characteristics of Zener diode and study the load and line regulation.				
	2. Solution of Differential Equation				2. To study the static characteristics of BJT in CE Configuration.			3rd week of November	1st week of December

	3. Special functions				3. To design and study the frequency response of the BJT amplifier in CE mode.				
	4. Solution of some basic PDEs				4. Construction of a series regulated power supply from an unregulated power supply.				
	5. Fourier Series				5. To study OPAMP: inverting amplifer, non inverting amplier, adder, substractor, comparator, Schmitt trigger, Integrator, differentiator, relaxation oscillator.				
					6. To design a Wien bridge oscillator for given frequency using an op-amp.				

.

Paper	**Core Course - 10**	**No of Lectu-res**	**Faculty**	**Paper**	**Skill Enhancement Courses – SEC-B (Technical Skill)**	**No of Lectu -res**	**Faculty**	**Internal Assessment (by College)**	**Parent Teacher Meeting**
PHS-A-CC-4-10-TH	**Quantum Mechanics (Theory)**	60		**PHS-A-4-SEC-B-1-TH**	**ARDUINO (Theory)**	15		3rd week of November	1st week of December
	1. Wavepacket description	05	DP		1. Introduction to Arduino	02	BC		
	2. General discussion of bound states in an arbitrary potential	08	DP		2. Basic ideas	03	BC		
	3. Quantum mechanics of simple harmonic oscillator	06	DP		3. Arduino Programming:	10	GDP		
	4. Quantum theory of hydrogen-like atoms	08	DP						

	5. Generalized Angular Momenta and Spin	10	SD						
	6. Spectra of Hydrogen atom and its fine structure	05	SD						
	7. Atoms in Electric & Magnetic Fields	08	SD						
	8. Many electron atoms	10	SD						
PHS-A-CC-4-10-P	**Quantum Mechanics (Practical)**	60	SN + GDP	**PHS-A-4-SEC-B-1-PR**	**ARDUINO (Practical/Project)**		BC + GDP		
	1. Finding eigenstates solving transcendental equation				1. LED Blinking and fading.				
	2. Use of shooting algorithm				2. Measurement of voltages (Below 5 V and above).				
	3. Time Evaluation of Wave Packet				3. Interfacing 7 Segment display.				
					4. Construction of thermometer using LM35 or Others.				
					5. Construct the experimental set up for studying simple pendulum and hence determine the acceleration's due to gravity.				
					6. Construct data logger for studying charging and discharging of RC circuit.				

PHYSICS (HONS.) 2020-21									
SEMESTER – V(syllabus-2018) July 20 – December 20									
Paper	**Core Course - 8**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 9**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-5-11-TH	**Quantum Mechanics and Applications (Theory)**	60		**PHS-A-CC-5-12-TH**	**Solid State Physics (Theory)**	60			
	1. Schrodinger Equation	05	SN		1. Crystal Structure	12	GDP		
	2. General discussion of bound states in an arbitrary potential	08	SN		2. Elementary Lattice Dynamics	10	GDP	3rd week of November	1st week of December
	3. Quantum mechanics of simple harmonic oscillator.	06	SN		3. Magnetic Properties of Matter	08	DP		
	4. Quantum theory of hydrogen-like atoms	08	SD		4. Dielectric Properties of Materials	08	BC		
	5. Generalized Angular Momenta and Spin.	10	SD		5. Ferroelectric Properties of Materials	04	BC		
	6. Spectra of Hydrogen atom and its _ne structure	05	SD		6. Elementary band theory	12	BC		
	7. Atoms in Electric & Magnetic Fields	08	SD		7. Superconductivity	06	BC		
	8. Many electron atoms	10	SD						
PHS-A-CC-5-11-P	**Quantum Mechanics and Applications (Practical)**	60	SN + SD	**PHSA-CC-5-12-P**	**Solid State Physics (Practical)**	60	GDP + BC		
	1. Finding eigenstates solving transcendental equation				1. To study BH hysteresis of ferromagnetic material				
	2. Use of shooting algorithm				2. To determine dielectric constant of different materials (solid and liquid)			3rd week of November	1st week of December

					using fixed frequency alternating source.				
	3. Time Evaluation of Wave Packet				3. Measurement of variation of resistivity in a semiconductor and investigation of intrinsic band gap using linear four probe.				
					4. Measurement of hall voltage by four probe method				
					5. To study temperature coefficient of a semiconductor (NTC thermistor) and construction of temperature controller with comperator and relay switch.				
					6. Measurement of magnetic susceptibility of solids				

.

Paper	Discipline Specific Elective Courses	No of Lectu-res	Faculty	Paper	Discipline Specific Elective Courses	No of Lectu-res	Faculty	Internal Assessment by College	Parent Teacher Meeting
PHS-A-5-DSE-A1(b)-TH	**Laser and Fiber Optics (Theory)**	75		**PHS-A-5-DSE-B1(a)-TH**	**Astronomy and Astrophysics - (Theory)**	75		3rd week of November	1st week of December
	1.Einstein coefficients and Rate equations	20	BC		1. Tools of Astronomy	15	SD		
	2. Basic properties of laser	04	BC		2. Stars and stellar systems	25	SD		
	3. Resonantors	08	BC		3. Galaxies and the Universe	10	BC		
	4. Transient effect	05	BC		4. Cosmology	25	SN		
	5. Basic Laser Systems	07	DP						

	6. Practical properties and uses of laser	05	DP						
	7. Fiber optics	12	DP						
	8. Holography	04	DP						
	9. Introductory Nonlinear Optics	10	DP						
	Laser and Fiber Optics (Tutorial)	15	BC + DP		**Astronomy and Astrophysics - (Tutorial)**	15	SD + SN		
Paper	**Discipline Specific Elective Courses**	**No of Lectu-res**	**Faculty**	**Paper**	**Discipline Specific Elective Courses**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-5-DSE-B1(b)-TH	**Nuclear and Particle Physics - (Theory))**	75							
	1. Introduction	5	GDP						
	2. Nuclear Reactions	10	GDP						
	3. Interaction of Nuclear Radiation with matter	15	GDP						
	4. Detector for Nuclear Radiations	15	GDP						
	5. Particle Accelerators	15	SN						
	6. Particle Physics	15	SN						
	Nuclear and Particle Physics - (Tutorial)	15	GDP + SN						

PHYSICS (HONS.) 2020-21									
SEMESTER – VI (syllabus-2018) January 21 – June 21									
Paper	**Core Course - 5**	**No of Lectu-res**	**Faculty**	**Paper**	**Core Course - 6**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-CC-6-13-TH	**Electromagnetic Theory (Theory)**	60		**PHS-A-CC-6-14-TH**	**Statistical Mechanics (Theory)**	60		3rd week of November	1st week of December
	1. Maxwell Equations	10	SN		1. Classical Statistical Mechanics	25	DP		
	2. EM Wave Propagation in Unbounded Media	20	SN		2. Classical Theory of Radiation	06	BC		
	3. EM Wave in Bounded Media	10	SN		3. Quantum Theory of Radiation	07	SD		
	4. Electromagnetic origin of Wave Optics	10	SN		4. Bose-Einstein Statistics	12	SD		
	5. Polarization in uniaxial crystals		GDP		5. Fermi-Dirac Statistics	10	SD		
	6. Rotatory polarization.	10	GDP						
PHS-A-CC-6-13-P	**Electromagnetic Theory (Practical)**	60	SD + GDP	**PHS-A-CC-6-14-P**	**Statistical Mechanics (Practical)**	60	DP + SN	3rd week of November	1st week of December
	1. To determine Brewster's angle for air-glass interface using a prism				1. Study of Random Numbers and Time series				
	2. To study Fresnels law by the re_ection on the surface of a prism.				2. Applications of Random Numbers				
	3. To verify the Malus law using a pair of polaroids.				3. Scaling and plots, exponents and parameters				
	4. To study the speci_c rotation of opticlly active solution using polarimeter.								

	5. Determination of wavelength and velocity of ultrasonic waves ion a liquid (kerosene, Xylene etc).								
	6. To analyze elliptically polarized light by using babinate compensator.								
	7. To determine dispersive power and resolving power of a plane diffraction grating.								
Paper	**Discipline Specific Elective Courses**	**No of Lectu-res**	**Faculty**	**Paper**	**Discipline Specific Elective Courses**	**No of Lectu-res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-A-6-DSE-A2(a) - TH	**Nano Materials and Applications - (Theory)**	75		**PHS-A-6-DSE-B2(a)-TH**	**Communication Electronics - (Theory)**	75		3rd week of November	1st week of December
	1. Nanoscale Systems	10	GDP		1. Electronic communication	10	BC		
	2. Synthesis of Nanostructure Materials	15	GDP		2. Analog Modulation	15	BC		
	3. Characterization	10	SN		3. Analog Pulse Modulation	10	BC		
	4. Optical Properties	15	SD		4. Digital Pulse Modulation	15	DP		
	5. Electron Transport	10	SD		5. Introduction to Communication and Navigation systems	25	DP		
	6. Applications	15	GDP						
	Nano Materials and Applications - (Tutorial)	15	SD + GDP		**Communication Electronics - (Tutorial)**	15	BC + DP		

PHYSICS (HONS.) 2020-21 Third Year (1+1+1-System)						
Paper	**First Term July 20– Oct20**	**No of Lectures**	**Faculty**	**Second Term Nov 20 – Jan 21**	**No of Lectures**	**Faculty**
V	**Unit-I**			**Unit-I**		
	1. Classical Mechanics II	16		**1. Classical Mechanics II**	14	
	i) Central Force Problem	09	SN	iii) Lagrangian and Hamiltonian formulation of Classical Mechanics	14	SN
	ii) Mechanics of Ideal Fluid	07	SN			
	2. Special Theory of Relativity	16		**2. Special Theory of Relativity**	14	
	i) Introduction	04	SN	iii) Vectors and Tensors	08	SN
	ii) Special Theory of Relativity	12	SN	iv) Invariant Intervals	06	SN
	Unit-II			**Unit-II**		
	1. Quantum Mechanics II	18		**1. Quantum Mechanics II**	12	
	i) Time dependent and time independent Schrodinger Eqn.	05	GDP	iii) Schrodinger Eq. in Spherical polar co-ordinate	12	GDP
	ii) Simple Application of Quantum Mechanics	13	GDP			
	2. Atomic Physics	20		**2. Atomic Physics**	10	
	i) Atomic Spectra	12	SD	iv) Molecular Spectroscopy	04	SD
	ii) Vector atom model	05	SD	v) Laser Physics	06	SD
	iii) Many electron model	03	SD			
Paper	**First Term July 19 – Oct 19**	**No of Lectures**	**Faculty**	**Second Term Nov 19 – Jan 20**	**No of Lectures**	**Faculty**
VI	**Unit-I**			**Unit-I**		
	1. Nuclear and Particle Physics I	30		**2. Nuclear and Particle Physics II**	30	
	i) Bulk properties of Nuclei	06	GDP	i) Nuclear reactions	05	SD
	ii) Nuclear structure	10	GDP	ii) Nuclear fission and fusion	06	SD
	iii) Unstable Nuclei			iii) Elementary particles		
	a) Alpha decay	04	GDP	a) Four basic interactions	04	SN
	b) Beta decay	05	GDP	b) Classifications	05	SN

	c) Gama decay	05	GDP	iv) Particle accelerator and detector	04	SN
				v) Nuclear Astrophysics	06	SN
	Unit-II			**Unit-II**		
	1. Solid State Physics I	30		**2. Solid State Physics II**	30	
	i) Crystal Structure	12	BC	i) Dielectric Property of materials	05	BC
	ii) Structure of Solids	18	BC	ii) Magnetic properties of materials	12	BC
				iii) Lattice Vibrations	07	BC
				iv) Super conductivity	06	BC
VIIA	**Unit-I**			**Unit-I**		
	1. Statistical Mechanics	16		**1. Statistical Mechanics**	14	
	i) Microstates and Macrostates	07	SN	iv) Quantum Statistical Mechanics	14	SN
	ii) Classical Stat. Mach.	03	SN			
	iii) Motivations for Quantum Statistics	06	SN			
	2. Electromagnetic Theory	16		**2. Electromagnetic Theory**	14	
	i) Generalization of Ampere's law	09	SD	iii) EM Waves in conducting medium	06	SD
	ii) EM Wave in an isotropic dielectric	07	SD	iv) Dispersion	04	SD
				v)Scattering	04	SD

PHYSICS (GEN.) 2020-21									
SEMESTER – I (CBCS) July 20 – December 20									
Paper	**General/Elective Course - 1**	**No of Lectures**	**Faculty**	**Paper**	**General/Elective Course - 1**	**No of Lectures**	**Faculty**	**Internal Assessment (by College)**	**Parent Teacher Meeting**
PHS-G-CC-1-1TH (GE-1)	**Mechanics (Theory)**	60		**PHS-G-CC-1-1P (GE-1)**	**Mechanics (Practical)**	60	DP + BC	3rd week of November	1st week of December
	1. Mathematical Methods	15	GDP		1. Determination of Moment of inertia of cylinder/ rectangular bar				
	2. Introduction to Newtonian Mechanics	05	BC		2. Determination of Y-Modulus of a metal bar by the method of flexure.				
	3. Rotational Motion	10	BC		3. Determination of Rigidity modulus of the material of a wire.				
	4. Central force and Gravitation	10	SD		4. Determination of Moment of Inertia of a flywheel.				
	5. Oscillations	09	SD		5. Determination of g using bar pendulum				
	6. Elasticity	06	DP						
	7. Surface Tension	05	DP						

PHYSICS (GEN.) 2020-21									
SEMESTER – II (CBCS) January 21 – June 21									
Paper	**GeneralElective Course - 2**	**No of Lectures**	**Faculty**	**Paper**	**GeneralElective Course - 2**	**No of Lectures**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-G-CC-2-2TH (GE-2)	**Electricity and Magnetism (Theory)**	60		**PHS-G-CC-2-2P (GE-2)**	**Electricity and Magnetism (Practical)**	60	SN+ GDP	3rd week of November	1st week of December
	1. Essential Vector Analysis	5	GDP		1. Determination of unknown resistance by Carey Foster method.				
	2. Electrostatics	25	SN		2. Measurement of a current owing through a register using potentiometer.				
	3. Magnetism	15	SD		3. Determination of the horizontal components of earth's magnetic field.				
	4. Electro-magnetic induction	05	BC		4. Conversion of an ammeter to a voltmeter.				
	5. Electrodynamics	10	BC		5. Conversion of a voltmeter to an Ammeter.				

PHYSICS (GEN.) 2020-21									
SEMESTER – III (CBCS) July 20 – December 20									
Paper	**General/Elective Course - 3**	**No of Lectures**	**Faculty**	**Paper**	**General/Elective Course - 3**	**No of Lectures**	**Faculty**	**Internal Assessment (by College)**	**Parent Teacher Meeting**
PHS-G-CC-3-3TH (GE-3)	**Thermal Physics and Statistical Mechanics (Theory)**	60		**PHS-G-CC-3-3P (GE-3)**	**Thermal Physics and Statistical Mechanics (Practical)**	60	DP + SN	3rd week of November	1st week of December
	1. Laws of Thermodynamics	18	GDP		1. Determination of the coefficient of thermal expansion of a metallic rod using an optical lever				
	2. Thermodynamic Potentials	09	GDP		**2.** Verication of Stefan's law using a torch bulb glowing beyond draper point.				
	3. Kinetic Theory of Gases	10	BC		**3.** To determine the Thermal Coefficient of a resistance using Carey- Foster bridge.				
	4. Theory of Radiation	08	SN		**4.** To determine the Coefficient of Thermal Conductivity of a bad conductor by Lee and Charlton's disc method.				
	5. Statistical Mechanics	15	SN		5. Determination of the Pressure coefficient of air using Jolly's apparatus.				

PHYSICS (GEN.) 2020-21									
SEMESTER – IV(CBCS) January 21 – June 21									
Paper	**General/Elective Course - 4**	**No of Lectu-res**	**Faculty**	**Paper**	**General/Elective Course - 4**	**No of Lectu -res**	**Faculty**	**Internal Assessment by College**	**Parent Teacher Meeting**
PHS-G-CC-4-4TH (GE-4)	**Waves and Optics (Theory)**	60		**PHS-G-CC-4-4P (GE-4)**	**Waves and Optics (Practical)**	60	BC + SD	3rd week of November	1st week of December
	1. Acoustics	10	SD		1. Determination of the focal length of a concave lens by auxiliary lens method.				
	2. Superposition of vibrations	05	SD		2. Determination of the frequency of a tuning fork with the help of sonometer using n−l curve.				
	3. vibrations in string	08	SD		3. Determination of radius of curvature / wavelength of a monochromatic / quasi monochromatic light using Newton's ring.				
	4. Introduction to wave optics	02	BC						
	5. Interference	15	BC		4. Measurement of the thickness of a paper from a wedge shaped film.				
	6. Diffraction	10	GDP						
	7. Polarization	10	GDP		5. Measurement of specific rotation of active solution (e.g., sugar solution) using polarimeter.				