

Teaching Plan, Department of Physics, B. H. College, Howly

Session : 2022-2023 (For odd semesters)

B.Sc. 1st Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
August, 2022 to November 2022	65	Sanatan Kr. Nath	PHY-HC-1016 Theory : Unit I : Vector calculus (Lectures : 25) Unit II : First and Second Order differential equations (Lectures : 17) PHY-HC-1026 Lab : Expt. Nos. 1, 2, 3, 7 & 8		
		Dandeswar Deka	PHY-HC-1026 Theory : Unit I : Fundamentals of dynamics (Lectures : 06) Unit VIII : Oscillations (Lectures : 08) Unit IX : Non-inertial systems (Lectures : 04) Unit X : Special theory of relativity (Lectures : 10)		
		Jyoti Prasad Roy Choudhury	PHY-HC-1016 Theory : Unit III : Orthogonal curvilinear coordinates (Lectures : 06) Unit IV : Dirac delta function & its properties (Lectures : 02) Unit V : Introduction to probability (Lectures : 04) Unit VI : Theory of errors (Lectures : 06) Lab : Basics of scientific computing Review of Python Python programs- random number generation, numerical integration		
		Nabaneeta Basak	PHY-HC-1026 Theory : Unit II : Work and energy (Lectures : 04) Unit III : Collisions (Lectures : 03)		

			Unit IV : Rational dynamics (Lectures : 12) Unit V : Elasticity (Lectures : 03) Unit VI : Fluid motion (Lectures : 02) Unit VII : Gravitation and central force motion (Lectures : 08)		
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B.Sc. 1st Sem (Generic) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
August, 2022 to November 2022	65	Sanatan Kr. Nath	PHY-HG-1016 Theory : Unit I : Vectors (Lectures : 06) Unit III : Momentum and Energy (Lectures : 06)		
		Dandeswar Deka	PHY-HG-1016 Theory : Unit II : Laws of motion (Lectures : 10) Unit VII : Special theory of relativity (Lectures : 07)		
		Jyoti Prasad Roy Choudhury	PHY-HG-1016 Theory : Unit V : Gravitation (Lectures : 07) Unit VI : Oscillations (Lectures : 07)		
		Nabaneeta Basak	PHY-HG-1016 Theory : Unit IV : Rotational motion (Lectures : 05) Unit VII : Elasticity (Lectures : 08) Unit IV : Rational dynamics (Lectures : 12) Unit V : Elasticity (Lectures : 03) Lab : Expt. Nos. 1, 2, 4, 5, 6 & 7		

B.Sc. 3rd Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
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August, 2022 to November 2022	65	Sanatan Kr. Nath	PHY-HC-3016 Theory : Unit I : Frobenius method and special functions (Lectures : 18) Unit II : Partial differential equations (Lectures : 14) Unit III : Some special integrals (Lectures : 04) Unit IV : Matrix (Lectures : 15)		
		Dandeswar Deka	PHY-HC-3026 Theory : Unit V : Maxwell's thermodynamics relations (Lectures : 07) Unit VI : Distribution of velocities (Lectures : 07) Unit VII : Molecular collisions (Lectures : 04) Unit VIII : Real gases (Lectures : 10) Lab : Expt. Nos. 1, 4 & 6 PHY-HC-3036 Theory : Unit XI : Computer organization (Lectures : 06) Unit XII : Intel 8085 microprocessor architecture (Lectures : 08) Unit XIII : Introduction to assembly language (Lectures : 04)		
		Jyoti Prasad Roy Choudhury	PHY-HC-3036 Theory : Unit I : Introduction to CRO (Lectures : 03) Unit II : Integrated circuits (qualitative treatment only) (Lectures : 03) Unit III : Digital circuits (Lectures : 06) Unit IV : Boolean algebra (Lectures : 06) Unit V : Data processing circuits (Lectures : 04) Unit VI : Arithmetic circuits (Lectures : 05) Unit VII : Sequential circuits (Lectures : 06) Unit VIII : Timers – IC 555 (Lectures : 03)		

			Unit IX : Shift registers (Lectures : 02) Unit X : Counters (4 bits) (Lectures : 04) Lab : Expt. Nos. 1, 2, 3, 4, 5 & 6		
		Nabaneeta Basak	PHY-HC-3016 Theory : Unit V : Fourier Series (Lectures : 09) PHY-HC-3026 Theory : Unit I : Zeroth and first law of thermodynamics(Lectures : 08) Unit II : Second law of thermodynamics (Lectures : 10) Unit III : Entropy(Lectures : 07) Unit IV : Thermodynamics potentials (Lectures : 07)		

B.Sc. 3rd Sem (Generic) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
August, 2022 to November 2022	65	Sanatan Kr. Nath	PHY-HG-3016 Theory : Unit II : Thermodynamic potentials (Lectures : 10) Unit IV : Theory of radiation (Lectures : 06)		
		Dandeswar Deka	PHY-HG-3016 Theory : Unit I : Laws of thermodynamics (from Second law & entropy to unattainability of absolute zero) (Lectures : 08) Unit III : Kinetic theory of gases (Lectures : 10)		

		Jyoti Prasad Roy Choudhury	PHY-HG-3016 Theory : Unit V : Statistical mechanics (Lectures : 12)		
		Nabaneeta Basak	PHY-HG-3016 Theory : Unit I : Laws of thermodynamics (from thermodynamic system to reversible and irreversible processes) (Lectures : 14) Lab : Expt. Nos. 1, 3, 6 & 8		

B.Sc. 5th Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
August, 2022 to November 2022	65	Sanatan Kr. Nath	PHY-HC-5016 Theory : Unit I : Time dependent Schroedinger equation (Lectures : 06) Unit II : Time independent Schroedinger equation (Lectures : 10) Unit III : Bound states (Lectures : 12) Unit IV : Hydrogen like atoms (Lectures : 10) Unit V : Atoms in electric and magnetic fields (Lectures : 12) Unit VI : Many electron atoms (Lectures : 10)		
		Dandeswar Deka	PHY-HC-5026 Theory : Unit I : Crystal structure (Lectures : 10) Unit II : Elementary lattice dynamics (Lectures : 10) Unit III : Magnetic properties of matter (Lectures : 08) Unit IV : Dielectric properties of materials (Lectures : 08) Unit V : Ferroelectric properties of materials (Lectures : 06)		

			Unit VI : Free electron theory of metals (Lectures : 12) Unit VII : Superconductivity (Lectures : 06) Lab : Expt. Nos. 8, 9 & 10		
		Jyoti Prasad Roy Choudhury	PHY-HE-5016 Theory : Unit I : Measurements (Lectures : 07) Unit II : Signals and systems (Lectures : 07) Unit III : Shielding and grounding (Lectures : 04) Unit IV : Transducers and industrial instrumentation (Lectures : 21) Unit V : Digital multimeter (Lectures : 05) Unit VI : Impedance Bridges and Q-meter (Lectures : 04) Unit VII : Vacuum systems (Lectures : 12) Lab : Expt. Nos. 2, 3, 4, 5 & 6 PHY-HC-5016 Lab : Expt. Nos. 1, 2 & 3		
		Nabaneeta Basak	PHY-HE-5056 Theory : Unit I : General properties of nuclei (Lectures : 10) Unit II : Nuclear models (Lectures : 12) Unit III : Radioactivity decay (Lectures : 10) Unit IV : Nuclear reactions (Lectures : 08) Unit V : Interaction of Nuclear radiation with matter (Lectures : 08) Unit VI : Detector for nuclear radiations (Lectures : 08) Unit VII : Particle accelerators (Lectures : 05) Unit VIII : Particle physics (Lectures : 14)		

Teaching Plan, Department of Physics, B. H. College, Howly

Session : 2022-2023 (For even semesters)

B.Sc. 2nd Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
January, 2023 to May, 2023	65	Sanatan Kr. Nath	PHY-HC-2016 Theory : Unit I : Electric Field & Potential (Lectures : 26) Unit II : Dielectric properties of matter (Lectures : 08) PHY-HC-2016 Lab : Expt. Nos. 1, 3, 4, 7 & 9		
		Dandeswar Deka	PHY-HC-2026 Theory : Unit I : Superposition of waves (Lectures : 05) Unit II : Superposition of perpendicular waves (Lectures : 02) Unit III : Wave motion (Lectures : 04) Unit IV : Velocity of waves (Lectures : 06) Unit V : Superposition of harmonic waves (Lectures : 07) PHY-HC-2026 Lab : Expt. Nos. 3, 4, 6 & 7		
		Jyoti Prasad Roy Choudhury	PHY-HC-2016 Theory : Unit III : Magnetic field (Lectures : 09) Unit IV : Magnetic properties of matter (Lectures : 04) Unit V : Electromagnetic induction (Lectures : 06) Unit VI : Electrical circuits (Lectures : 04) Unit VII : Network theorems (Lectures : 03) Unit VIII : Ballistic galvanometer (Lectures : 03)		

		Nabaneeta Basak	PHY-HC-2026 Theory : Unit VI : Wave optics (Lectures : 03) Unit VII : Interference (Lectures : 09) Unit VIII : Interferometer (Lectures : 04) Unit IX : Diffraction (Lectures : 09) Unit X : Fraunhofer diffraction (Lectures : 09) Unit XI : Holography (Lectures : 03)		
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B.Sc. 2nd Sem (Generic) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
January, 2023 to May, 2023	65	Sanatan Kr. Nath	PHY-HG-2016 Theory : Unit I : Vector analysis (Lectures : 12)		
		Dandeswar Deka	PHY-HG-2016 Theory : Unit II : Electrostatics (Lectures : 22)		
		Jyoti Prasad Roy Choudhury	PHY-HG-2016 Theory : Unit III : Magnetism (Lectures : 10) Unit IV : Electromagnetic induction (Lectures : 06)		
		Nabaneeta Basak	PHY-HG-2016 Theory : Unit V : Maxwell's equations and EM waves (Lectures : 10) Lab : Expt. Nos. 1, 6, 7, 8 & 9		

B.Sc. 4th Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
January, 2023 to May, 2023	65	Sanatan Kr. Nath	PHY-HC-4016 Theory : Unit I : Complex analysis (Lectures : 10) Unit II : Complex integration (Lectures : 10) Unit III : Fourier transforms (Lectures : 15) Unit IV : Laplace transforms (Lectures : 15)		
		Dandeswar Deka	PHY-HC-4016 Theory : Unit V : Tensor algebra (Lectures : 10) PHY-HC-4026 Theory : Unit I : Quantum theory (Lectures : 12) Unit II : Wave particle duality (Lectures : 05) Unit III : Schroedinger Equation (Lectures : 08) Unit IV : 1D box and step barrier (Lectures : 06) Lab : Expt. Nos. 4, 6, 10 & 11		
		Jyoti Prasad Roy Choudhury	PHY-HC-4036 Theory : Unit I : Semiconductor diodes (Lectures : 10) Unit II : Two terminal devices and their applications (Lectures : 06) Unit III : Bipolar junction transistors (Lectures : 06) Unit IV : Amplifiers (Lectures : 10) Unit V : Coupled amplifier (Lectures : 04) Unit VI : Feedback in amplifiers (Lectures : 04) Unit VII : Sinusoidal oscillators (Lectures : 04) Unit VIII : Operational amplifiers (Lectures : 04)		

			Unit IX : Applications of Op-Amp (Lectures : 09) Unit X : Conversion (Lectures : 03) Lab : Expt. Nos. 1, 2, 3, 4, 5 & 6		
		Nabaneeta Basak	PHY-HC-4026 Theory : Unit V : Structure of the atomic nucleus (Lectures : 06) Unit VI : Radioactivity (Lectures : 08) Unit VII : Detection of nuclear radiation (Lectures : 04) Unit VIII : Fission and Fusion (Lectures : 04) Unit IX : Lasers (Lectures : 04)		

B.Sc. 4th Sem (Generic) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
January, 2023 to May, 2023	65	Sanatan Kr. Nath	PHY-HG-4016 Theory : Unit VI : Wave optics (Lectures : 03) Unit VII : Interference (Lectures : 10) Unit VIII : Michelson interferometer (Lectures : 03)		
		Dandeswar Deka	PHY-HG-4016 Theory : Unit I Superposition of two harmonic oscillations (Lectures : 04) Unit II : Superposition of two perpendicular harmonic oscillations (Lectures : 02) Unit III : Wave motion (Lectures : 07)		
		Jyoti Prasad Roy Choudhury	PHY-HG-4016 Theory : Unit IV : Fluids (Lectures : 06) Unit V : Sound (Lectures : 06)		

		Nabaneeta Basak	PHY-HG-4016 Theory : Unit IX : Diffraction (Lectures : 14) Lab : Expt. Nos. 1, 3, 4, 5 & 6		
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B.Sc. 6th Sem (Honours) under CBCS

Period	Teaching days	Teachers allotted	Course contents distributed against each teacher	Remarks	Review & follow up
January, 2023 to May, 2023	65	Sanatan Kr. Nath	PHY-HC-6016 Theory : Unit I : Maxwell equations (Lectures : 12) Unit II : EM wave propagation (Lectures : 10) Unit III : EM wave in bounded media (Lectures : 10) Unit IV : Polarization of EM waves (Lectures : 12) Unit V : Rotatory polarization (Lectures : 08) Unit VI : Optical Fibres (Lectures : 03) Lab : Expt. Nos. 1, 3, 4 & 6		
		Dandeswar Deka	PHY-HE-6046 Theory : Unit I : Stellar properties (Lectures : 15) Unit II : The sun and the solar system (Lectures : 15) Unit III : Positional astronomy (Lectures : 10) Unit IV : Astronomical techniques (Lectures : 10) Unit V : Galaxies (Lectures : 10) Unit VI : Large scale structure and cosmology (Lectures : 15)		

		Jyoti Prasad Roy Choudhury	PHY-HE-6026 Theory : Unit I : Classical statistics (Lectures : 18) Unit II : Classical Theory of Radiation (Lectures : 09) Unit III : Quantum theory of radiations (Lectures : 05) Unit IV : Bose-Einstein statistics (Lectures : 13) Unit V : Fermi-Dirac Statistics (Lectures : 15) Lab : Expt. Nos. 2, 3, 4, 5 & 6 PHY-HC-5016 Lab : Expt. Nos. 1, 2 & 3		
		Nabaneeta Basak	PHY-HE-6056 Theory : Unit I : Classical mechanics (Lectures : 22) Unit II : Small amplitude oscillations (Lectures : 10) Unit III : Special theory of relativity (Lectures : 33) Unit IV : Fluid Dynamics (Lectures : 10)		