

Programme outcome, Programme specific outcome and Course specific Outcome:

Department of Physics

Programme Outcome: (BSc General)

- ⌚ Acquire adequate knowledge of the subject.
- ⌚ Craft a foundation for higher learning.
- ⌚ Develop capacity of critical reasoning, judgement and communication skills.
- ⌚ Learn to use computers and various software.
- ⌚ Learn to tolerate diverse ideas and different points of view.
- ⌚ Become empowered to face the challenges of the changing Universe.

Programme Specific Outcomes: (B.Sc Regular with physics)): This programme in physics would provide the following opportunities to the students.

- ⌚ To understand the fundamental principles, concepts and recent developments in Physics.
- ⌚ To carry out experiments to understand the various laws and concepts in physics.
- ⌚ To inspire and boost interest of the students in physics.
- ⌚ To develop the power of appreciations, the achievements in science and role in nature and society.
- ⌚ To apply the theories learnt and the skills acquired to solve the real life problem.

- ⌚ To enhance the academic abilities, personal qualities and transferable skills so that the students will get the opportunities to get jobs in various fields.

- ⌚ To become a person with analytical mind, innovative thinking, clarity of thought, expression and systematic approach.

Course Specific Outcome:

| Semester | Code of the paper | Name of the paper | Course Outcome |
|-----------------|---------------------------|--|---|
| First semester | PHY-RC-1016 / PHY-HG-1016 | Mechanics | After completion of this course, students are expected to understand the role of vectors and coordinate systems in Physics, solve ordinary differential equations, laws of motion and their application to various dynamical situations, inertial reference frames and their transformations, concept of conservation of energy, momentum, angular momentum and apply them to basic problems, phenomenon of simple harmonic motion, motion under central force, concept of time dilation, length contraction using special theory of relativity. In the laboratory course, after acquiring knowledge of handling measuring instruments (like screw gauge, Vernier calipers, travelling microscope.) students shall embark on verifying various principles and associated measurable parameters. |
| Second semester | PHY-RC-2016 / PHY-HG-2016 | Electricity and Magnetism. | After completion of this course, students are expected to apply Gauss's Law of Electrostatics to solve a variety of problems, calculate the magnetic forces that act on moving charges and the magnetic fields due currents, have brief idea of magnetic materials, understand the concepts of induction and apply them to solve variety of problems. In the laboratory course, students will be able to measure resistance (high and low), voltage, current, self and mutual inductance, capacitor, strength of magnetic field and its variation and to study different circuits RC, LCR etc. |
| Third semester | PHY-RC-3016 / PHY-HG-3016 | Thermal physics and statistical mechanics. | After completion of this course, students are expected to learn the basic concepts of thermodynamics, the first and second of law of thermodynamics, the concept of entropy and the associated theorems, the thermodynamic potentials and their physical interpretations, Maxwell's thermodynamic relations, fundamentals of the kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions, viscosity, thermal conductivity, diffusion and Brownian motion, black-body radiation, Stephen- |

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| | | | <p>Boltzman's Law, Rayleigh-Jean's Law and Planck's law and their significances, quantum statistical distributions, viz., the Bose-Einstein Statistics and the Fermi-Dirac Statistics.</p> <p>In the laboratory course, students will be able to measure Planck's constant using black-body radiation, determine Stephen's constant, co-efficient of thermal conductivity of a bad-conductor and a good conductor, determine the temperature coefficient of resistance, study variation of thermo emf across two junctions of a thermocouple with temperature etc.</p> |
| | PHY-SE-3054 | Video editing for Social Media. | After completion of this course, students will be able to edit impactful video content which appeals to target audience, add or edit music, soundtrack or audio to videos, to customize the videos by using Text (font) and to use transitions and effects to create impactful videos. |
| Fourth semester | PHY-RC-4016 / PHY-HG-4016 | Waves and Optics | <p>After completion of this course, students are expected to understand simple harmonic oscillation and superposition principle, importance of classical wave equation in transverse and longitudinal waves and solving a range of physical systems on its basis, concept of normal modes in transverse and longitudinal waves: their frequencies and configurations, interference as superposition of waves from coherent sources derived from same parent source, demonstrate understanding of interference and diffraction experiments, polarization.</p> <p>In the Laboratory course, students will gain hands on experience on use of various optical instruments and making of finer measurements of wavelength of light using Newton Ring's experiment, Fresnel biprism, etc., resolving power of optical equipment, the motion of coupled oscillators, and study of Lissajous figures and behavior of transverse, longitudinal waves.</p> |
| | PHY-SE-4034 | Domestic and Industrial Electrical Wiring | After successful completion of this course students will be able to recognize various electrical devices and their symbols, recognize various electrical devices placed on the panels/ distribution boards and to design the panels, read schematic and wiring |

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| | | | diagrams of electrical devices, read and interpret electrical installation plan, practice and execute any type of wiring, estimate and determine the cost of wiring installation. |
| Fifth semester | PHY-HE-5056 | Nuclear and Particle Physics | After completion of this course, students will have the understanding of the subatomic particles and their properties, about the different nuclear techniques and their applications in different branches of physics. The course will develop problem based skills and make the students to apply the acquired knowledge in the areas of nuclear, medical, archeology, geology and other inter-disciplinary fields of physics and chemistry. |
| | PHY-SE-5044 | PageMaker | After completion of this course, students will be able to create Documents and Templates, add Text into documents using various methods, and applying different formatting styles to characters and paragraphs, import graphics, create objects using various tools, add effects to objects create a book and export it into PDF, Multipage Layout Design. |
| Sixth semester | PHY-HE-6056 | Classical Dynamics | After completion of this course, students will have an overview of Newton's Laws of Motion, Special theory of Relativity by 4-vector approach and fluids and to make the students understand the Lagrangian and Hamiltonian of a system. |
| | PHY-SE-6044 | Graphic Design for Digital Advertising | After completion of this course, students will be able to understand aesthetics & visual appeal in design, use of impactful visual content which appeals to target audience, conceptualize, visualize, and create graphic design for Digital Adds, Posters .Banners and Flyers, Social Media Adds & banners, Website and Blogs. |

Students Mentoring

Department of Physics

Session: 2020-2021



This is the record of distribution of students' mentoring duties among the faculty members of Department of Physics in the session 2020-2021:

| Mahananda Pathak | | |
|--|--|--|
| BSc. 1 st /2 nd Semester | BSc. 3 rd /4 th Semester | BSc. 5 th /6 th Semester |
| Sudipta Baishya | Kaushik Raj Talukdar | Azaharul Islam |
| Hirok Jyoti Baruah | Apurba Chakravarty | |
| Suman Baishya | Dhrubajyoti Talukdar | |
| Nirban Sarma | Saurabh Nath | |
| Kumar Rakesh | Rijajul Haque | |
| Jyotirmoy Talukdar | Lalchand Ali | |
| Ramandeep Kashyap | | |
| Diganta Bezbaruah | | |
| Dipankar Kalita | | |
| Nitumoni Deka | | |

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|------------------------------|------------------|------------------|
| Jagadish Deka | | |
| Samiran Medhi | | |
| Manash Pratim Kalita | | |
| Pulama Talukdar | | |
| Tafikuddin Ahmed | Santanu Deka | Basiruddin Ahmed |
| Bishal Kalita | Shajahan Ali | |
| Nibaran Das | Kamal Barman | |
| Kaushik Deka | Kuldeep Medhi | |
| Prabal Bhatta | Surajit Das | |
| Himangshu Patowary | Dilwar Khan | |
| Munna Ahmed | | |
| Mafidul Ali | | |
| Pranjit Lahkar | | |
| Dibyajyoti Lahkar | | |
| Injamul Haque | | |
| Niloptal Deka | | |
| Samiul Haque Dewan | | |
| Lakshi Nath Choudhury | | |
| Khainul Ali | Nekibur Jaman | |
| Parvej Mustafa | Nitishman Sarma | |
| Mrinmoy Lahkar | Nitul Deka | |
| Munna Ahmed | Jeet Kalita | |
| Akhtar Hussain | Bhargab Talukdar | |

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|--------------------------|--|--|
| Fyjul Haque | | |
| Saurabh Kalita | | |
| Bikash Thakuria | | |
| Niharika Bhattacharya | | |
| Nayan Moni Haloi | | |
| Parvez Yachir Alam | | |
| Almat Ali Ahmed | | |
| Jyotismita Sarma | | |
| Rajdeep Kalita | | |

Slow Learner List
Department of Physics
Session: 2020-2021

Bsc 1st semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 16 | Nirban Sarma |
| 33 | Tafikuddin Ahmed |
| 112 | Nayan moni Haloi |

Bsc 2nd semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 16 | Nirban Sarma |
| 33 | Tafikuddin Ahmed |
| 112 | Nayan moni Haloi |

Bsc 3rd semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 27 | Lalchand Ali |
| 73 | Nekibur Jaman |

Bsc 4th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 27 | Lalchand Ali |
| 73 | Nekibur Jaman |

Bsc 5th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 25 | Azaharul Islam |
| 27 | Basir Uddin Ahmed |

Bsc 6th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 25 | Azaharul Islam |
| 27 | Basir Uddin Ahmed |

Slow Learner List

Department of Physics

Session: 2021-2022

Bsc 1st semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 10 | Nabajyoti Deka |
| 17 | Shyamal Deka |
| 51 | Manash Kalita |
| 60 | Bikash Kalita |

BSc 2nd semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 10 | Nabajyoti Deka |
| 17 | Shyamal Deka |
| 51 | Manash Kalita |
| 60 | Bikash Kalita |

Bsc 3rd semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 16 | Nirban Sarma |
| 33 | Taffik Uddin Ahmed |

Bsc 4th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 16 | Nirban Sarma |
| 33 | Taffik Uddin Ahmed |

Bsc 5th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 73 | Nekibur Jaman |

Bsc 5th semester

| Roll Number | Name of the students |
|-------------|----------------------|
| 73 | Nekibur Jaman |

1st, 3rd and 5th Semester Unit Test Schedule

2020-2021

Department of Physics

1st Unit Test:

| Class | Date |
|-------------------------------|------------|
| BSc. 1 st Semester | 03/12/2020 |
| BSc 3 rd Semester | 04/12/2020 |
| BSc 5 th Semester | 05/12/2020 |

2nd Unit Test:

| Class | Date |
|-------------------------------|------------|
| BSc. 1 st Semester | 21/01/2021 |
| BSc 3 rd Semester | 22/01/2021 |
| BSc 5 th Semester | 23/01/2021 |

Due to covid situation unit tests for 2nd , 4th and 6th semester are not conducted.