**DEPARTMENTAL PROFILE**

**Name of the Department:** **PHYSICS,** Bhattadev Univeristy

Located on the scenic campus of the college, the Department of Physics started its activity in 1959 and then in 1962 it started its undergraduate classes and there is no looking back since then bajali college which has been now upgraded to bhattadev university. Headed by **Dr. Manoranjan Talukdar**, the department today is an active beehive of both teaching and learning. The faculty in the Department of Physics strongly believe that desire maybe the key to motivation, but it is determination and commitment to unrelenting pursuit of our goals and excellence that enable us to attain success. As pointed out by Albert Einstein that “*the supreme art of the teacher*” is “*to awaken joy in creative expression and knowledge*”, the faculty of Physics Department dedicate themselves to and strive for excellence in teaching and research.

Apart from traditional method of board teaching, modem ICT enabled methods using the Power Point presentations on LCD projector and audio-video educative material available as CDs and material accessed from the internet, is liberally utilized by the faculty members. Students are also encouraged to develop presentations using these resources

The members of the department are also very active in extension programmes, in reaching out to students and the general public, organizing teacher training programmes for high schools, demonstration lectures for high schools, undergraduate and post-graduate students. The department is equipped with excellent infrastructure and latest books in the field of Physics. Richard Feynmann had once said, “*It doesn’t matter how beautiful your theory is, it doesn’t matter how smart you are, if it doesn’t agree with experiment, it is wrong.*” Implementing this wisdom into practice, the faculty members ensure that apart from imparting strong theoretical foundation, we also provide students with laboratories that are fully equipped with latest facilities and instruments so that they can gain knowledge and expertise by conducting experiments on optics, electronics and microprocessor-based programming, mechanics, thermal physics, etc. The primary aim of the department is to provide high quality learning in physics, grooming bright undergraduates who will push frontiers of knowledge in physics and its related disciplines through scholarly activities.

**Highlights of the department**

* Well-equipped spacious laboratories with computer and internet facilities and ICT enabled classrooms.. 
* Departmental Seminar Library. 
* **Major Instruments :** Hall Effect Apparatus, Magnetic Susceptibility apparatus, Four probe Apparatus, Dielectric Constant apparatus, Function Generator, Fabry-Perrot Apparatus, Michelson interferrometer, Llyod’s mirror apparatus, digital polarimeter etc
* Hands on training via workshops to increase the practical skills of the students. 
* Guest Lectures and Educational trips. 
* Examination **NGPE**, an IAPT activity, **Physics Olympiad**, as APS activity 
* Participation of students in inter and intra-university poster, seminar, quiz, debate etc. Competitions
* Publication of Annual Wall magazine “ **PRATIFALAN** ”

**Faculties of the department:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Qualification** | **Designation** | **Specialisation** | **Experience** |
| **Dr. Manoranjan Talukdar** | MSc., PhD | HeadAssociate Prof. | Spectroscopy | 21 years |
| **Dr. Arup Bharali** | MSc., PhD | Associate Prof. | Theoritical Physics | 21 years |
| **Mr. Swapnajyoti Sarma** | MSc., MPhil. | Assistant Prof. | Electronics | 16 years |
| **Mr. Dhanjit Talukdar** | MSc., MPhil. | Assistant Prof.(Sr. Grade) | Theoritical Physics | 14 years |
| **Mr. Apurba Talukdar** | MSc., MPhil. | Assistant Prof.(Sr. Grade) | Spectroscopy | 11 years |
| **Dr. Upakul Mahanta** | MSc., PhD | Assistant Prof. | Astrophysics & Plasma Physics | 9 years |
| **Ms. Asha Barman** | MSc. | Guest Faculty | Nuclear Physics | -- |
| **Ms. Ankita Khanal**  | MSc. | Guest Faculty | Astrophysics &Cosmology | -- |
| **Ms. Anjali Dassani** | MSc. | Guest Faculty | Chip Design | -- |

**SWOC Analysis:**

* **Strengths:** Student-teacher relation has always been the strength of our department. Students are always encouraged to ask any question however unreasonable it may be and teachers always try to give a agreeable answer to it. Also dedicated Faculty members from diverse fields, non Teaching Staffs, moderately-equipped laboratories, intelligent and hard working students are the strengths of the department.
* **Weaknesses:** With the growing number of students, it has becoming very difficult to give equal attention to all of them with our insufficient faculty. Also Infrastructure of laboratories, shortage of space for class room are main weakness of our dept.
* **Oppurtinites:** Students passing with Physics Honours go for higher studies in NITs, Tezpur University, Gauhati University, Assam University etc and other state Universities. Few students have also joined different Research Centers, School Service and other services. Also students passing out from here are engaged in defense servics, civil services as well as in banking sectors too.
* **Challenges:** For a long time, the content of this teacher-centred approach course was organised and structured based on books by renowned physicists. From this perspective, the learning of physics is measured according to the student’s ability to solve standardised problems similar to those the authors or the teacher have developed**.** Finally, this learning process is assessed through written exams in which the students solve similar exercises. However, the results of these exams have not been as expected, and in many cases physics teachers have observed that the students attempt to memorise the exercises instead of understanding them. So a more student-centred approach, is yet to be developed.