Department of Physics

1. Name of the department: Physics


3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.): UG (Honours & General)

4. Names of Interdisciplinary courses and the departments/units involved: None

5. Annual/ semester/choice based credit system (programme wise): Annual credit system under C.U.

6. Participation of the department in the courses offered by other departments: None

7. Courses in collaboration with other universities, industries, foreign institutions, etc.: None

8. Details of courses/programmes discontinued (if any) with reasons: N.A.

9. Number of Teaching posts

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>04</td>
<td>02</td>
</tr>
</tbody>
</table>
10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D. Students guided for the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolan Champa Saha</td>
<td>Ph.D., M.Sc.</td>
<td>Assistant Professor</td>
<td>High Energy Physics</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Sanjib Kumar Kar</td>
<td>Ph.D., M.Sc.</td>
<td>Assistant Professor</td>
<td>Atmospheric Physics</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Subhasish Das</td>
<td>M.Sc.</td>
<td>Part Time Teacher</td>
<td>Astrophysics</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Souman Paul</td>
<td>M.Sc.</td>
<td>Part Time Teacher</td>
<td>Solid State Physics</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Sudeb Chandra Das</td>
<td>M.Sc.</td>
<td>Guest Lecturer</td>
<td>Solid State Physics</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

11. List of senior visiting faculty: None

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty: 40.5%


14. Number of academic support staff (technical) and administrative staff; sanctioned and filled: Instrument Keeper -1 (filled), Bearer - 2 (filled 1)

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.: Ph.D. - 2, PG - 3

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: None

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: None
18. Research Centre /facility recognized by the University: None

19. Publications: None
   * a) Publication per faculty:
   * Number of papers published in peer reviewed journals (national / international) by faculty and students
   * Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
   * Monographs
   * Chapter in Books
   * Books Edited
   * Books with ISBN/ISSN numbers with details of publishers
   * Citation Index
   * SNIP
   * SJR
   * Impact factor
   * h-index

20. Areas of consultancy and income generated: None

21. Faculty as members in
   a) National committees b) International Committees c) Editorial Boards: None

22. Student projects
   a) Percentage of students who have done in-house projects including inter departmental/programme: N.A.

   b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: N.A.

23. Awards / Recognitions received by faculty and students: None

24. List of eminent academicians and scientists/ visitors to the department
   1. Dr. Dipak Ghosh, Emeritus Professor, Jadavpur University
   2. Dr. Premomoy Ghosh, Senior Scientist, VECC, Kolkata

25. Seminars/ Conferences/Workshops organized & the source of funding:
   a) National: None   b) International: None
26. **Student profile programme/course wise:**

<table>
<thead>
<tr>
<th>Name of the Course/programme (refer question no. 4)</th>
<th>Applications received</th>
<th>Selected #</th>
<th>Enrolled</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014(Hons)</td>
<td>111</td>
<td>14</td>
<td>4 *M 4 *F</td>
<td>Not yet completed</td>
</tr>
<tr>
<td>2013-14 (General)</td>
<td></td>
<td>43</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2012-2013(Hons)</td>
<td>118</td>
<td>24</td>
<td>07 100</td>
<td></td>
</tr>
<tr>
<td>2012-13(General)</td>
<td></td>
<td>56</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

*Result awaited as on Nov, 2013; *M = Male  *F = Female

#: Every applicant who qualifies University norms is included in the merit list through on-line admission. As per intake capacity approved by Calcutta University students are enrolled strictly on merit basis.

$ Results pertains to Part-III (Hons)

27. **Diversity of Students**

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>% of students from the same state</th>
<th>% of students from other States</th>
<th>% of students from abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honours &amp; General</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

28. **How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?**

Last 5 years: NET – 1, SLET – 0, WB SSC: 12, JECA- 3

29. **Student progression: 2012 – 2013**

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Against % enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>0</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>N.A.</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>N.A.</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td></td>
</tr>
<tr>
<td>Campus selection</td>
<td>N.A.</td>
</tr>
<tr>
<td>Other than campus recruitment</td>
<td>1</td>
</tr>
<tr>
<td>Entrepreneurship/Self-employment</td>
<td>4</td>
</tr>
</tbody>
</table>
30. **Details of Infrastructural facilities**

a) **Library:** Our Department has small library of its own. It contains 179 volumes, mostly related to the curriculum providing ready reference during both the classroom teaching and later interactive sessions. Thus the student's accessibility, borrowing limits and, faculty interactions are greatly enhanced. Moreover, we supplement the library with Science Reporter, a monthly magazine.

b) **Internet facilities for Staff & Students:** Department has one Pentium IV based computer with unlimited internet facility for its Staff and Students.

c) **Class rooms with ICT facility:** Though Department does not have class room with ICT, it has 4 computers at its students disposal for regular course work. Both the Honours and General courses have computer programming in the syllabus. We have acquired the ‘Hyper Physics’ CD which encapsulates the syllabus in a very convenient form.

d) **Laboratories:** Our department offers both its General and Honours students, well-maintained laboratories with all the essential amenities. It consists of a 1240sq.ft main lab, 460sq.ft. Honours lab, 3 optical labs and a 140 sq.ft. Computer lab.

31. **Number of students receiving financial assistance from college, university, government or other agencies in 2012-2013:** 3 full-free studentship from college.

32. **Details on student enrichment programmes (special lectures/ workshops/ seminar) with external experts:**

To commensurate the greatest global achievement in the field of Science and Technology, i.e. confirmation of existence of Higgs Boson at Large Hadron Collider, Geneva we conducted a day-long seminar on Sept. 11, 2012. The title of the seminar was “Ishwar Kana – Brahmander Utso Sandhane”. We were honoured to have two eminent speakers to deliver talks on Higgs boson and Large Hadron Collider. Prof. Dr. Dipak Ghosh, Emeritus Professor of Jadavpur University, well-renowned for his lucidity in the realm of High Energy Physics and Dr. Premomoy Ghosh, Senior Scientist, VECC, Kolkata who has worked at LHC, Geneva. Not only our students and staff, but students and teachers of eight schools of our locality attended the seminar.

33. **Teaching methods adopted to improve student learning:**

The mother tongue of the students is Bengali- however for higher studies this is a setback. This causes extreme difficulty and confusion in the classroom for students and teachers alike. Thus in first couple of months we adopt to teach in Bengali using English terminologies, and then we gradually switch over to English, so that they can follow text books and ultimately write their exam in English. Moreover as our students are not so strong academically, they need slower rate of teaching than that is prescribed by the
university. We comply with them and provide extra classes for their benefit, both in theory and practical.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Department always encourages its student to be socially responsible within the Institution and also outside it through designated NSS programs taken up by the College. They are made responsible for cleanliness of their classrooms and laboratories. They are encouraged and taught to maintain the discipline within the college. They are also taught to handle the laboratory instruments and library books with care. Through such practices, it is hoped that our future generation will be responsible for public properties of our country.

35. SWOC analysis of the department and Future plans

**Strength**

Our students come from an economically weak background we find them to be hard working and obedient. This is very encouraging to the sincere technical staff and our faculty. Our teachers have strong academic background and are dedicated to the well being of the students and the reputation of the College. The founders of PJC were idealistic visionaries. Hence, the basic infrastructure of the physics lab – space, furniture and design- is comparable to the best institutions around here. The current equipment, though not fully adequate for the future needs, are well maintained by the caring staff and faculty.

**Weakness**

The rural setting from which our students come does not provide them with solid foundation for higher study. Usually they do not find a good academic environment in the family and their schooling is often very inadequate. The location of our college coupled with insufficient Government funding is responsible for severe shortage of permanent faculty and staff. It is also critical in preventing us from obtaining the equipment that are needed as per the current syllabus.

**Opportunity**

Hence it is clear that opportunities for our graduates are limited. It is still a matter of pride that some of our students have pursued higher studies like M.Sc. and MCA and found gainful employment in schools, IT industry, Bank, etc.
Challenges

Our challenge is to enrich our students with quality education to help them overcome the cycle of poverty and discrimination and live with quiet dignity as a worthy citizen of India.

Future plans

In the coming year Department will endeavour to procure much needed equipment for its lab, and more books for its departmental library and more internet connections to its all existing computers for its students. We have also plans to have sessions once a month where our students and teachers may exchange their views on current traits of Physics.