1. Name of the department: PHYSICS

2. Year of Establishment: 2001

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):
   (i) B.Sc. (General) - Since 2001-2002  
   (ii) B.Sc. (Honours) - Since 2012-2013;

4. Names of Interdisciplinary courses and the departments/units involved: Nil

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

6. Participation of the department in the courses offered by other departments:
   Some classes of the Biochemistry department are taken by our faculty members, when invited.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.: Nil

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

9. Number of Teaching posts:

<table>
<thead>
<tr>
<th>Professors</th>
<th>Associate Professors</th>
<th>Asst. Professors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanctioned</td>
<td>Filled</td>
<td></td>
</tr>
<tr>
<td>Nil</td>
<td>Nil</td>
<td>Two</td>
</tr>
<tr>
<td>Nil</td>
<td>Nil</td>
<td>One</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>Dr. Suman Sinha</td>
<td>Ph.D.</td>
<td>Assistant Professor</td>
<td>Atomic &amp; Molecular Physics; Material Science</td>
<td>Eight</td>
<td>Nil</td>
</tr>
<tr>
<td>Dr. Tapati Banerjee</td>
<td>Ph.D.</td>
<td>College approved Part-time Lecturer</td>
<td>Biophysics</td>
<td>Eleven</td>
<td>Nil</td>
</tr>
<tr>
<td>Arpita Bose</td>
<td>M.Sc.</td>
<td>Guest Lecturer</td>
<td>Electronics</td>
<td>Five months</td>
<td>Nil</td>
</tr>
<tr>
<td>Abhedananda Bhattacharya</td>
<td>M.Sc.</td>
<td>Guest Lecturer</td>
<td>Solid State Physics</td>
<td>Four months</td>
<td>Nil</td>
</tr>
</tbody>
</table>

11. List of senior visiting faculty: Nil

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Lectures</th>
<th>Practical Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Sc. (Honours)</td>
<td>67%</td>
<td>70%</td>
</tr>
<tr>
<td>B.Sc. (General)</td>
<td>67%</td>
<td>65%</td>
</tr>
</tbody>
</table>

13. Student -Teacher Ratio (programme wise):

   B.Sc. (Hons.): 8:1  B.Sc. (General): 20:1

14. Number of academic support staff (technical) and administrative staff
sanctioned and filled: Sanctioned: Nil  Filled: One (temporary)

15. Qualifications of teaching faculty with D.Sc./ D.Litt/ Ph.D/ MPhil / PG.:
   Ph.D.: Two  PG: Two

16. Number of faculty with ongoing projects from a) National  b) International funding agencies and grants received: Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil

18. Research Centre/facility recognized by the University: No

19. Publications:
   * Publication per faculty:
     Dr. Suman Sinha: 7
     Dr. Tapati Banerjee: 10
   
   * Number of papers published in peer reviewed journals (national/international) by faculty and students

     Faculty:
     Dr. Suman Sinha: 7
     Dr. Tapati Banerjee: 10

     Students: Nil

   * 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.):

     Dr. Suman Sinha: 5
     Dr. Tapati Banerjee: 10
Publications in National and International Journals:

Dr. Suman Sinha:


3. *Study of magnetic barkhausen noise from amorphous Fe$_{70}$Ni$_8$Si$_{10}$B$_{12}$ and Fe$_{40}$Ni$_{40}$B$_{20}$ Ribbons*, Journal of Non destructive Testing and Evaluation, 5, 49 (2006), S. Sinha and K. Mandal.

4. *Giant magnetooimpedance in amorphous (Co$_{0.93}$Fe$_{0.07}$)$_{63}$Ni$_{10}$Si$_{11}$B$_{16}$ glass-coated microwire*, Journal of Magnetism and Magnetic Materials, 302, 223 (2006), S. Sinha, K. Mandal and M. Vazquez. (citations: 2, SNIP: 1.568, SJR: 0.935, IF: 2.002, Web of Science: 1)

5. *Contributions to giant magnetooimpedance from different domain regions of Co$_{68.15}$Fe$_{4.35}$Si$_{12.5}$B$_{15}$ amorphous wire*, Journal of Applied Physics, 99, 033901 (2006), K. Mandal, S. Sinha and P. Anil Kumar. (citations: 11, SNIP: 1.631, SJR: 1.944, IF: 2.185, Web of Science: 5)


7. *Effect of tensile stress on the magnetic Barkhausen noise in amorphous Fe$_{70}$Ni$_8$Si$_{10}$B$_{12}$ ribbon*, Indian Journal of Physics, 79(9), 991 (2005), S. Sinha and K. Mandal. (SNIP: 0.918, SJR: 0.322, IF: 0.072)

Dr. Tapati Banerjee:


3 ‘N-benzenesulfonylglycylglycine, (I),andtetrakis(μ-Nbenzenesulfonflylglycyl glycincato) bis[aquacupper(II)](Cu-Cu)-water (1/4), (II).’ Mukherjee, K; Banerjee, T; Roychowdhury, P; Yamane, Takashi. Acta Crystallographica, Section C: Crystal Structure Communications, 1995, C51(10), 2025-8.

4.‘N-benzenesulfonylglycylglycine,(I),andtetrakis(μ-Nbenzenesulfonflylglycyl glycincato) bis[aquacupper(II)](Cu-Cu)-water (1/4), (II).’ Mukherjee, K; Banerjee, T; Roychowdhury, P; Yamane, Takashi. Acta Crystallographica, Section C: Crystal Structure Communications, 1995, C51(10), 2025-2028

5 ‘X-ray crystal structure of bis-(p-nitroacetophenone-4,6-dimethyl-2-pyrimidyl hydrazone)copper(I) perchlorate.’ Mitra, A; Banerjee, T; Roychowdhury, P; Saha, N; Das, S. Polyhedron, 1996, 15(19), 3371-3375.

6 ‘Synthesis and spectroscopic characterization of cobalt(III) complexes with S-benzyl dithiocarbazate of 5-methyl-3-formyl pyrazole (HMPzSB): x-ray crystal structure of [Co(MPzSB)2]Cl.’ Mitra, A; Banerjee, T; Roychowdhury, P.; Chaudhuri, S; Bera, P; Saha, N. Polyhedron, 1997, 16(21), 3735-3742.

7 ‘Synthesis, characterization and crystal structure analysis of bis (pyridine-2-carbaldehyde thiosemicarbazonato)cobalt(III) thiocyanate monohydrate.’ Chattopadhyay, S. K.; Banerjee, T; Roychowdhury, P; Mak, Thomas C.W.; Ghosh, S. Transition Metal Chemistry (London), 1997, 22(3), 216-219

8 Studies of nickel(II) complexes of 3-hydroxyiminobutanone thiosemicarbazone and 3-hydroxyiminobutanone (4-phenylthiosemicarbavzone). Crystal structure of bis[3-hydroxyiminobutanone (4-phenylthiosemicarbavzone)]nickel(II) nitrate, monohydrate, [Ni(C11H14N4OS)2](NO3)2•H2O.’ Chattapadhyay, S. K; Chattopadhyay, D; Banerjee, T; Kuroda, R; Ghosh, S. Polyhedron, 1997, 16(11), 1925-1930.

9. ‘X-ray elucidation of 17α-pregna-2,4-dien-20-yne-(2,3-d) isoxazole-17β-ol.’ Dey, R; Banerjee, T; Chowdhury, P; Roy; Chaudhuri, S. Journal of Chemical Crystallography, 2001, 31(5), 263-266.

20. Areas of consultancy and income generated: Nil

21. Faculty as members in
   a) National committees b) International Committees c) Editorial Boards: Nil

22. Student projects: Nil
   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: Nil

24. List of eminent academicians and scientists / visitors to the department: Nil

25. Seminars/ Conferences/Workshops organized & the source of funding: Nil
   a. National
   b. International


<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></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>20</td>
<td>08</td>
<td>03</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td></td>
<td></td>
<td></td>
<td>Physics (Honours) was introduced in 2012, no batch has passed out till now.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>51.16%</td>
</tr>
<tr>
<td>B.Sc.(General)</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*M = Male   *F = Female

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>B.Sc. (Honours)</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>B.Sc. (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, Defence services, etc.? Nil

29. Student progression: Our first B.Sc. (Honours) batch has not yet graduated.

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Against % enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>Not Applicable (N.A.).</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>Employed</td>
<td>N.A.</td>
</tr>
<tr>
<td>- Campus selection</td>
<td>N.A.</td>
</tr>
<tr>
<td>- Other than campus recruitment</td>
<td>N.A.</td>
</tr>
<tr>
<td>Entrepreneurship/Self-employment</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

30. Details of Infrastructural facilities:
   a. Library: Seminar Library with Reading facility
      Number of books in the Central library: 650 (approx.)
      Number of books in the seminar library: 50 (approx.)
   b. Internet facilities for Staff & Students: Desktop and Laptop Computers with wireless
c. Laboratories: Physics laboratory is equipped with instruments and experimental set-ups which covers the syllabus of the University.

31. Number of students receiving financial assistance from college, university, government or other agencies:
   B.Sc. (Honours): One (Government of West Bengal)   B.Sc (General):

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

33. Teaching methods adopted to improve student learning:
   i) Use of Powerpoint presentations for selected lectures.
   ii) Use of computers.

34. Participation in Institutional Social Responsibility (ISR) and Extension Activities: Nil

35. SWOC analysis of the department and Future plans:

   The Physics department is successfully conducting the B.Sc. (General) Course of the University of Calcutta since 2001. The B.Sc.(Honours) course has been introduced in the session 2012-2013.

   The department has a seminar library with a good collection of valuable reference books. Lectures and practical classes are held with utmost regularity. The laboratory is well equipped with scientific instruments and experimental set-ups.

   The lack of adequate faculty members is a serious concern for the department.

   The M.Sc.(Distance Education) course of the Directorate of Distance Education, Vidyasagar University, West Bengal is introduced from the current session (2014-2015).