- **Department COMPUTER SCIENCE**

- **Establishment**

| | |
|---|---|
| a. Pass Course was introduced in the | 2002 |
| b. Honours Course was introduced in | 2002 |

- **Programmes offered**

  Under Graduate and Post Graduate only

- **Interdisciplinary courses and the departments involved**

  The department is involved with the Department of Mathematics, Physics, and Electronics to run the B.Sc. (Hons.) course which is interdisciplinary in nature

- **System followed**

  For undergraduate studies the department follows annual system

  For post graduate studies the department follows semester system (as per CU)

- **Participation in the courses offered by other departments**

  No such practice

- **Courses in collaboration with other universities, industries, foreign institutions, etc.**

  IIM Calcutta, University of Calcutta

- **Details of courses/programmes discontinued (if any) with reasons**

  No such practice

9. **Teaching posts**

| Number of Posts | Total Sanctioned | Total Filled up | Total Vacant |
|---|---|---|---|
| Professor | NA | NA | NA |
| Associate Professor | NA | 0 | NA |
| Assistant Professor | 2 | 2 | 1(Freezed) |

* Entry level posts are of Assistant Professor, upgraded to Associate Professor through CAS

The filled in strength is not adequate to provide teachers to all classes in the routine (as per university rule) and hence the department has arranged service of

- Government approved part time teachers : 1
- College appointed temporary guest faculty (part of the year**) :** 3
- Government approved contractual teachers : 0
- College appointed permanent teachers (round the year) : 2

- **Faculty profile :**

| Name | Designation | Qualification | Specialization | Experience | | No. of Ph.D. fellows |
|---|---|---|---|---|---|---|
| | | | | UG | PG | |
| Saptarshi Naskar | Asst. Professor | MCA | Discrete Math, Graph Theory, Coding Theory | 9 | 5 | |
| Piu Bera | Part Time Lecturer (Govt. Approved) | M.Sc, M.Tech | Networking | 8 | - | |
| Arijit Choudhury | CWTT | M.Sc, M.Tech | Graph Theory, Cryptography | 3 | 3 | |
| Aradhita Mukherjee | CWTT | M.Sc, M.Tech | Mobile Computing, DBMS | 3 | - | |
| Suchandra Das | Guest Lecturer | M.Sc, M.Tech | DBMS | 4 | - | |
| Monodeep Banerjee | Guest Lecturer | M.Sc. | Microprocessor, Electronics | 1 | - | |
| Sourav Das | Guest Lecturer | M.Sc, M.Tech | OS | 1 | - | |
| Dipak Sen | Guest Lecturer | B. Tech. | Digital Electronics | 8 | - | |

- **List of senior visiting faculty**

Dr. Samar Sen Sarma, Professor, CSE, CU
Dr. Partha Sarathi Dasgupta, Professor, MIS, IIM Calcutta
Dr. Jyotshna Kr. Mondal, Professor, CSE, Kalyani University

- **Dependence on temporary faculty**

| | |
|---|---|
| % of classes taken by the Temporary Teachers | 50 |

13. **Student -Teacher Ratio (programme wise)**

| | | |
|---|---|---|
| Students Teacher ratio (without PTTs) | UG | NA |
| Students Teacher ratio (with PTTs) | UG | 5:1 |
| Students Teacher ratio (without PTTs) | PG | NA |
| Students Teacher ratio (with PTTs) | PG | 15:2 |

14. Number of academic support staff

| | Technical support staff | Academic support staff |
|---|---|---|
| Sanctioned posts | 2 | - |
| Filled up posts | 1 | - |

15. **Qualifications of teaching faculty**

| **Teachers With** | **Number** | **Percentage** |
|---|---|---|
| D.Sc. | 0 | 0 |
| D.Litt. | 0 | 0 |
| Ph.D. | 0 | 0 |
| M. Phil | 0 | 0 |
| PG | 7 | 87.5 |
| **Total number of Teachers** | **8** | **87.5** |

- **Faculty with ongoing/completed projects**

None

- **Departmental projects funded and total grants received**

None

- **Research Centre /facility recognized by the University**

None

- **Publications:**

**Selected list of papers and books published and/or accepted during last five years:**

**By Saptarshi Naskar as a Co-author:**

**International Journal Publications:**

- "Obscure History of Graphs", S.S.Sarma, S.Naskar, K.Basuli, and R.Halder, The ICFAI University Journal of Computer Sciences, Vol. III, No. 2, pp.74-78, 2009.
- "An Internet-based IP Protection Scheme for Circuit Designs using Linear Feedback Shift Register(LFSR)-based Locking", R.Halder, P.S.Dasgupta, S.Naskar, and S.S.Sarma, SBCCI'09, August 31st - September 3rd, 2009, Natal, RN, Brazil, Copyright 2009 ACM 978-1-60558-705-9.
- "An internet-based IP protection scheme for circuit designs using linear feedback shift register (LFSR)-based locking.", Raju Halder, Parthasarathi Dasgupta, Saptarshi Naskar, Samar Sen-Sarma, In Ivan Saraiva Silva, Renato Perez Ribas, Calvin Plett, editors, Proceedings of the 22st Annual Symposium on Integrated Circuits and Systems Design: Chip on the Dunes, SBCCI 2009, Natal, Brazil, August 31 - September 03, 2009. ACM, 2009.
- "Connectedness of a Graph from its Degree Sequence and it is Relevent with Reconstruction Conjecture", S. Naskar, K. Basuli, and S.S.Sarma, Journal of Global Research in Computer Science, Vol.1, No.1, ISSN-2229-371X, August 2010.
- "Role of Degree Sequence in Determination of Maximal Clique of a Graph", K. Basuli, S. Naskar, and S.S.Sarma, Journal of Global Research in Computer Science, Vol.1, No.2, ISSN-2229-371X, October 2010.
- "Generation of All Spanning Trees a Combinatorial Approach", S. Naskar, K. Basuli, and S.S.Sarma, Journal of Global Research in Computer Science, Vol.1, No.4, pp. 68-74, ISSN-2229-371X, November 2010.
- "An Internet-based IP Protection Scheme for Circuit Design using Linear Feedback Shift Register-based Locking", R. Halder, P.S. Dasgupta, S. Naskar, and S.S.Sarma, IAENG, 2010.
- "Application of MODBUS Protocol in Serial Port Data Communication", S.Sarkar, S. Naskar, and K. Basuli, European Conference for Academic Discipline, Organized by The International Journal of Arts and Science, Gottenheim Germany, November 29 - December 3, 2010.
- "An Internet-based IP Protection Scheme for Circuit Design using Linear Feedback Shift Register-based Locking", R. Halder, P.S. Dasgupta, S. Naskar, and S.S.Sarma, Engineering Letters, Engineering Letters Year: 2011 Vol. 19 Issue: 2 Pages/record No.: 84-94.

- “Extracting Plain Text from Corrupted Word Document”, S. Naskar, S. Sarkar, and K. Basuli, Journal of Global Research in Computer Science, Vol. 2, No. 8, pp. 21- 23, ISSN-2229-371X, August 2011.

- Последовательный порт передачи данных с использованием протокола MODBUS, Авторы: Saptarshi Naskar, Krishnendu Basuli, Samar Sen Sarma, Перевод: Скрыпник Д.В, 2011.

- Spanning Tree Generation in the Limelight, CCSIT, LNICST 86, pp 188-192, 2012.

- Reconstruction Conjecture, CCSIT, LNICST 86, pp 17-25, 2012.

- Minimizing Boolean Sum of Products Functions Using Binary Decision Diagram, IJCSEA, Volume 2, Number 1, pp. 73-86, February 2012.

- A NOVEL SCHEME FOR DATA ENCRYPTION TECHNIQUE, IJMA, ISSN 2229 – 5046, 2013.

- Cell Phone Operated Land Rover a Novel Approach. IJAIM 2.3 (2013): pp 47-50.

**International Conference Publication:**

- An Efficient Data Encryption Technique, Euro-American Conference, 3-April-2014.

**E-magazine Publications:**

- “Generation of All Spanning Trees of a Simple, Symmetric Connected Graph”, K. Basuli, S. Naskar, S.S.Sarma, SSRN, id: 1529902, December 30, 2009

- “Generation of All Spanning Trees”, S. Naskar, K. Basuli, and S.S.Sarma, SSRN, id: 1433035, December 30, 2009

- “A Close Encounter with Intractability”, S.S.Sarma, S. Naskar, and K. Basuli, SSRN, id: , December 30, 2009

**By Arijit Choudhury:**

**International Journal Publication**

- A NOVEL SCHEME FOR DATA ENCRYPTION TECHNIQUE, IJMA, ISSN 2229 – 5046, 2013

- **Consultancy**

The Department does not provide any consultancy

- **Academic Involvement beyond Campus**

  Trying to collaborate with IIT Bombay, IITKGP, IIMC for student-faculty exchange program.

22. **Student projects:**

  All third year Students are involved in Project work on Analysis of Algorithm, Graph Theory, Number Theory, Networking, Social network etc..

- **Awards/ Recognitions**

  Nil

- **List of eminent academicians and scientists/ visitors to the department**

  Sw. Suparna Nanda Ji Maharaj, Former Principal RKMRC, Narendrapur.
  Prof. Samar Sen Sarma, Professor, Dept. of CSE, CU
  Prof. Partha Sarathi Dasgupta, Professor, MIS Department of IIMC.
  Prof. Jyotshna Kr. Mondal, Professor, University of Kalyani.
  Prof. Nabendu Chaki, Professor, Dept. of CSE, CU.

- **Seminars/ Conferences/Workshops organized**

  None

26. **Student profile:**

  Demand, Utilization, Female Enrolment and Success scenario

| | **Demand Ratio*** | **Utilisation**** | **Enrolled–Male** | **Enrolment-Female** | **Pass Ratio** | |
|---|---|---|---|---|---|---|
| **PG** | 30 | 20 | 10 | 10 | ------- | |
| **Hons** | 30 | 16 | 12 | 4 | 5 | 1:3 |
| **Gen** | | | 8 | | 75% | |

*Total capacity
** Total number of student who are attending regular classes.

- **Diversity of Students**

**Locational profile of the students**

| % students enrolled from | Own District | Other District | Own State | Other State | Abroad |
|---|---|---|---|---|---|
| UG | 70 | 0 | 70 | 0 | 0 |
| PG | 24 | 0 | 24 | 0 | 0 |

**Social profile of the students:**

| % of students belonging To | General | SC | ST | OBC | Minority |
|---|---|---|---|---|---|
| UG | 13 | 3 | 0 | 0 | 0 |
| PG | 20 | 0 | 0 | 0 | 0 |

- **Students Success in Competitive Examination**

| | Number of successful students during 2005-13 |
|---|---|
| NET/SET | 2 |
| GATE | 10 |
| Civil Service | 0 |
| Banking | 2 |
| SSC | 3 |
| Other (IT Sector) | 40 |
| PSC(Assistant Professor) | 1 |
| Faculty in Colleges | 12 |

- **Student Progression**

| Student progression | Against % enrolled |
|---|---|
| UG to PG | 45 |
| PG to M.Phil. | 0 |
| PG to Ph.D. | 4 |
| Ph.D. to Post-Doctoral | 0 |

| | |
|---|---|
| Campus selection | 25 |
| Other than campus recruitment | 40 |
| Self-employment | 4 |

- **Details of Infrastructural facilities**
  - Department has a separate library having books with Reading facilities
  - Department has separate internet facility used by Teachers and Student
  - Department has one ICT based classrooms having the following facilities
    - Smart Board
    - Smart Pen
    - Laptop
    - Projector
  - Department has two laboratories having the following facilities:
    - Computer Software Lab(computers, Internet, printers, projector, Scanners)
    - Hardware (digital lab)

- **Financial Assistance to Students**

| | **Percentage** |
|---|---|
| % of students receiving SC ST OBC stipend | 100 |
| % of students receiving state government stipend | 100 |
| % of students receiving UGC stipend | 0 |

32. **Student enrichment programmes**

- Inter college/ Intra college coding championship
- Workshops by IITB.

- **Teaching methods adopted to improve student learning**

Teaching methods practiced by the department are as follows -

- Chalk and talk /black board based teaching

- ICT based teaching
- Group study / Collaborative learning
- Home assignment / Open book assignment
- Students' group discussion
- Students quiz
- Differentiated assignment and homework
- Problem solving or case studies
- Simulations

- **Participation in Institutional Social Responsibility (ISR) and Extension activities**

  Working for NSS, Sarsuna College Unit

- **SWOC analysis of the department and Future plans**

  **Strength :**

  - Good reputation of the department
  - Good inter personal relationship
  - Good teacher student relationship
  - Good discipline
  - High propensity towards use of Technology
  - High demand for admission
  - Strong interdisciplinary attitude
  - Good infrastructural base
  - Research Facilities

**Weakness :**

- Limited space

**Opportunity :**

- Revised syllabus enables the students to remain updated
- Increasing digitization enhances departmental efficiency and performance

**Constraint :**

- Financial constraint due to government's policy of remittance of 50 % tuition
- Space constraint

**Future Plan of the Department**

- To arrange for more campus recruitment
- To arrange for inter-college seminars and programmes
- To open a research group in collaboration with IITs', IISc., ISI, IIMs'