Department of Computer Science & Application
University of North Bengal

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About the Department

Establishment

The Department started imparting instructions with the most modern curricula and syllabus to the students of Post Graduate Diploma in Computer Application Course in the year 1983 initially. Afterwards starts MCA Course in the year 1988. The Department is the oldest Department among all other Universities, which started imparting MCA Course in West Bengal. Presently the department is successfully running MCA & M.Sc. (Computer Science) Courses.

The Department of Computer Science & Application has been one of the pioneering academic institutions for higher education, research, and innovation in key areas of computer science and application. The mission and vision of the department is to enabling excellences in the world of computer science and application through imparting higher education and research. Students of this department showed their potentiality in their respective services and placed in various reputed industries.

The Department maintains an excellent teaching/learning and research environment with dedicated, qualified and dynamic faculties and well equipped laboratories. Apart from the teaching, faculties are very much active developing, guiding and conducting research oriented projects, articles related to Computer Science & Information Technology, books. The faculties also participate in various International and national Seminars, workshops, Symposiums and conferences of repute. Presently the Department is having three Professors, two Assistant Professors (Senior Scale), two Assistant Professors, one Assistant Professor (Contractual), four Technical Staff, one Record Supplier and two casual staff.
Courses Offered

Department started imparting education to the students of Post Graduate Diploma in Computer Application Course (PGDCA) in the year 1983 initially. Afterwards starts MCA Course in the year 1988. The Department is the oldest Department among all other Universities, which started imparting MCA Course in West Bengal. Presently the department is successfully running Ph.D. in Computer Science, MCA & M.Sc. (Computer Science) Courses.

Doctor of Philosophy (Ph. D.)

The Doctor of Philosophy (Ph. D.) is a Research Program leading to Ph. D. degree in Computer Science. The course is open to anyone having passed Master’s Degree in Computer Science/ Computer Applications/ Computer Engineering or any other allied subject as provided by the ordinances governing the program.

Master of Computer Application (MCA)

The Master of Computer Applications (MCA) is a three year (six semesters) course open to graduates in any stream having studied Mathematics up to 10+2 level. The program is a right mix of Core and Application areas. Since the very inception, it has attracted the best students and carries respectable status among students, industry and academic fraternity.

Master of Computer Science (M. Sc.)

The Master of Computer Science (M.Sc.) Program is a two year (four semesters) course open to Honours graduates in Computer Science stream in all three years of graduation. The program gives emphasis on Theory and Systems in Computer Science and is one of the highly sought after programs of its type in the country.

<table>
<thead>
<tr>
<th>Name of the Course</th>
<th>Duration</th>
<th>Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D. in Computer Science &amp; Application</td>
<td>As per UGC Norms</td>
<td>-</td>
</tr>
<tr>
<td>Master of Computer Application</td>
<td>3 Years ( Six Semester)</td>
<td>30</td>
</tr>
<tr>
<td>M.Sc. Computer Science</td>
<td>2 Years ( 4 Semester)</td>
<td>10</td>
</tr>
</tbody>
</table>

Details of Enrolled Students Year wise (January’ 2007 – March, 2016)

<table>
<thead>
<tr>
<th>Year</th>
<th>MCA</th>
<th>Students Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GEN</td>
<td>SC</td>
</tr>
<tr>
<td>2007-2008</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>2008-2009</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>2009-2010</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>2010-2011</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>2012-2013</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>2013-2014</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>2014-2015</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>2015-2016</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>

*One student re-admitted **Three Foreign Students Admitted
Faculty Details

Faculty Details (January’ 2007 – March, 2016)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Teacher</th>
<th>Designation</th>
<th>Date of Joining</th>
<th>Date of Retirement/leaving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Prof. Ranjit Kumar Samanta</td>
<td>Professor</td>
<td>16/05/1984</td>
<td>Continuing</td>
</tr>
<tr>
<td>2.</td>
<td>Prof. Nayan Ranjan Manna</td>
<td>Professor</td>
<td>18/03/1998</td>
<td>Continuing</td>
</tr>
<tr>
<td>3.</td>
<td>Prof. Subhas Chandra Pal</td>
<td>Professor</td>
<td>07/01/1999</td>
<td>Continuing</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. Ardhendu Mandal</td>
<td>Asst. Professor (Sr. Sc)</td>
<td>25/01/2007</td>
<td>Continuing</td>
</tr>
<tr>
<td>5.</td>
<td>Mr. Rakesh Kumar Mandal (HOD)</td>
<td>Asst. Professor (Sr. Sc)</td>
<td>19/02/2007</td>
<td>Continuing</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. Swarup Das</td>
<td>Asst. Professor</td>
<td>18/03/1998</td>
<td>Continuing</td>
</tr>
<tr>
<td>5.</td>
<td>Dr. Sarad Sinha</td>
<td>Asst. Professor</td>
<td>19/03/1998</td>
<td>Continuing</td>
</tr>
<tr>
<td>8.</td>
<td>Dr. Dilip Roy Chowdhury</td>
<td>Asst. Professor (Cont.)</td>
<td>03/09/2008</td>
<td>Continuing</td>
</tr>
<tr>
<td>9.</td>
<td>Mr. Apash Roy</td>
<td>Asst. Professor (Cont.)</td>
<td>31/09/2008</td>
<td>05/01/2016</td>
</tr>
</tbody>
</table>

Performance of the Faculties of the Department

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Awards</th>
<th>Patents</th>
<th>Seminar Participations (Other than NBU)</th>
<th>Conference/Seminar Organized</th>
<th>Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Ranjit Kumar Samanta</td>
<td>--</td>
<td>--</td>
<td>80</td>
<td>2</td>
<td>105</td>
</tr>
<tr>
<td>Prof. Nayan Ranjan Manna</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>Prof. Subhas Chandra Pal</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>2</td>
<td>37</td>
</tr>
<tr>
<td>Dr. Swarup Das</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Dr. Sarad Sinha</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Dr. Ardhendu Mandal</td>
<td>1</td>
<td>--</td>
<td>8</td>
<td>2</td>
<td>35</td>
</tr>
<tr>
<td>Mr. Rakesh Kumar Mandal</td>
<td>2</td>
<td>--</td>
<td>9</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>Dr. Dilip Roy Chowdhury</td>
<td>--</td>
<td>--</td>
<td>12</td>
<td>2</td>
<td>36</td>
</tr>
</tbody>
</table>
List of Publications

Publications by the Department, including Journals

A total numbers of 243 Research Papers published in various National and International Journals of repute.

❖ List of Publications By the Department Faculties


58. R. K. Samanta, "Web-Based Knowledge Acquisition and the Development of Medical Consultation Systems", *Proc. Nat.Conf. on Medical Informatics, 6-7 April, 1999, Hyderabad, 88*.


64. R. K. Samanta, "Paediatric Growth Problems of North Bengal districts of India and a Knowledge Based approach for treatment planning", *National Seminar on Knowledge Based Systems, 3-4 June, 1998, Sardar Patel Univ., Gujarat*.


177. R. K. Pramanik, S. C. Pal and M. L. Ghosh, High frequency scattering due to a pair of point forces on the faces of a finite crack at the interface of dissimilar anisotropic materials., Accepted in the International Conference on Damage and Failure of Interfaces (DFI-I), held at Vienna University of Technology, Viena, Austria, during 22-24 September 1997.


183. Ardhendu Mandal and Subhas Chandra Pal, An empirical study and analysis of the dynamic load balancing techniques used in parallel computing systems, Proc. of International conference ICCS-2010 held on Nov.19-20, 2010 at Burdwan University, pp313-318.


192. Ardhendu Mandal, High Performance Computing, One-Day National Seminar on Recent Trends In Computer Science, Raiganj University, 1st April, 2016.


194. Ardhendu Mandal, Drivers for Processor Evolution: From Singlecore Towards Multicore, Research Scholars' Workshop on Computer Science and Application (RSWCSA-2012), Salesian College-Siliguri Campus, Organised by CSI, Siliguri Chapter and Salesian College, Siliguri, 2012.


236. Shantanu Chakraborty and Rakesh Kumar Mandal, “Pattern Variation Method to Detect Lie Using Artificial Neural Network (PVMANN)”,Proceedings of National Conference on Computational Technologies-2016 (NCCT’2016) , Dept. of Computer Science & Application, University of North Bengal, Feb-2016.


 Status of the Department in terms of linkage with other Departments in the University, other institutions, collaborative exchange programmes etc. :
Teaching Learning Process

A. Teaching Learning Process:

i. Courses Offered:
   a. Ph.D. Computer Science
   b. Master of Computer Application
   c. M.Sc. in Computer Science

ii. Examination Reform:
   a. Semester System introduced in both MCA and M.Sc. Computer Science Courses
   b. Continuing evaluation is followed

iii. Students Facilities
   a. Students can avail Departmental Library Facility.
   b. Plenty of Computer Laboratories with new generation computers are readily available for practical.
   c. Students can avail High Speed Internment at their Labs.
   d. Remedial classes allotted as when necessary for betterment of students.
   e. Frequent Campusing for Placement/Recruitment organized by the Department. TCS, Wipro, NamuraInfotech are the few reputed MNC’s where our students are placed.
   f. Can take part in National and International level sports and events.
   g. NET/SET, WBCS, English Speaking Courses Available

iv. Use of Teaching Aids and Teaching Methodology such as use of technology enabled learning:
   a. Smart Board.
   b. LCD Projector
   c. Learning Objects, digital entities in the form of animations and graphics supported with voice-over and text are used.
   d. Instead following traditional multimedia, which gives the teacher a pre-structured sequence of frames within the unit, here lesson is divided into different components of animations with voice-overs and text, graphics with voice-over and text and only text.
   e. Active Learning, Constructive Learning and Cooperative Learning strategies.

v. Special / add-on course : NIL

vi. Feedback & Counseling system: Available for students and for their guardians.
Research

B. Research:

i. Research facilities available in the Department

a. The Department maintains an excellent teaching/learning and research environment.


c. A Research Laboratory with new generation High End Computer with other facilities readily available for Research Scholars.

d. High Speed Internet Facility is available for the research process.

ii. Research Grants & Consultancy services mobilized by the Faculty (2006-2015)

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Investigator</th>
<th>Sanction Authority</th>
<th>Year</th>
<th>Amount</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Development of an Artificial Neural Network (ANN) to Diagnose Human Brain Tumor from CT scan and MRI Images,</td>
<td>Dr. Ardhendu Mandal (Investigator) &amp; Mr. Rakesh Kumar Mandal (Co-Investigator)</td>
<td>XII Plan UGC Assistance under Innovative Research Activities Scheme for Research Proposal,</td>
<td>2016</td>
<td>Rs. 10,10,000</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Design and Development of a Secure Stegosystem</td>
<td>Mr. Ardhendu Mandal (Investigator)</td>
<td>University of North Bengal</td>
<td>2014-2015</td>
<td>Rs. 75,000</td>
<td>Completed</td>
</tr>
<tr>
<td>A Lie Detection Expert System based on Artificial Neural Network (ANN)</td>
<td>Mr. Rakesh Kumar Mandal (Investigator)</td>
<td>University of North Bengal</td>
<td>2016</td>
<td>Rs. 75,000</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

iii. Status of the Department under schemes like SAP, DSA, FIST etc. : NA
Projects in Teaching Curriculum

C. **Projects in Teaching Curriculum:**

i. **Training opportunity for students in the syllabus and courses.**
   a. Projects are allotted with a specific goal of improving student’s competence, intelligence and performance. Most students from final year are involved in research projects, those who have not been showing interest in Software Development field.
   b. Here at Department our real time or live project program is particularly designed to reinforce students and job seekers having inadequate exposure, experience and skill set of IT industry.

ii. **Distinctive laboratory based research / Field research by the students.**
   a. The courses are associated with active area of research, from architecture, algorithms, Soft Computing, Expert System, Information Security, Software Engineering and artificial intelligence to wearable computing.
   b. Some of researches are theoretical and involves developing and analyzing new algorithms and techniques and some is more applied and involves experiments, design, implementation, and testing the project.
   c. Both are required extensive use of Research laboratory, which department provides with full technological support.
Ph.D. Scholars

D. Ph.D. Scholars:

i. Number of University JRF Research fellows under different funding agencies such as DST, DAE, UGC, CSIR, ICAR, ICSSR, RGNT etc. working/ worked in the Department in between January, 2007 to March, 2016.

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the Scholar</th>
<th>Designation</th>
<th>Funding Agencies</th>
<th>Date of Join</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Dipanjan Bhowmik</td>
<td>UGC JRF</td>
<td>UGC</td>
<td>30th January’2014</td>
</tr>
</tbody>
</table>

ii. Total Number of students registered under Ph.D. in between January, 2007 to March, 2016: Nine (9)

iii. Total Number of Ph.D. Degrees awarded in between January, 2007 to March, 2016: Six (6)

iv. Actual year wise intake in the Ph.D. course work for last five years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Ph.D. Course intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NIL</td>
</tr>
<tr>
<td>2015</td>
<td>NIL</td>
</tr>
<tr>
<td>2014</td>
<td>NIL</td>
</tr>
<tr>
<td>2013</td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>4</td>
</tr>
</tbody>
</table>

M.Phil

E. M.Phil:

i. Year wise intake capacity and number of M.Phil. students enrolled from January 2007 to March, 2016: Not Available

ii. Number of M.Phil. Degrees awarded in between January, 2007 to March, 2016: Not Available

Updating P.G. & U.G. Syllabus

F. Updating P.G. and U.G. Syllabus [including M.Phil. & Ph.D.:

<table>
<thead>
<tr>
<th>Time</th>
<th>2015-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Twice</td>
</tr>
<tr>
<td>Opening New special course</td>
<td>NIL</td>
</tr>
<tr>
<td>Discontinuation of programme</td>
<td>NIL</td>
</tr>
</tbody>
</table>
Non-classroom Activities of Students

G. Non-Classroom Activities of Students:

Special care is taken to provide the requisite skills to the students to enable them to pursue their career goals. Non class room based activities like value added programs are prescribed for the students which helps the students in enhancing their technical skills, personality and communication skills.

Some of the value added programs are:
- Regular PPT Presentation on recants inventions and topics in Computer Science & Information Technology.
- Training in advance courses like Advance Java, C# .NET, Php, MySql, ORACLE etc.
- Seminar, Conferences & Workshops on various topics.
- Student participation in various Technical activities.
- Special assistance in industry based major project / live projects.
- Communication Lab for improving oral & written skills etc.

Remedial Coaching

H. Remedial Coaching :

i. Estimated number of students who have used facilities such as NET/SET coaching, coaching for entry into higher services etc.: 30/Session (appx.)

Additional Information

I. Additional Information about the Department :

i. Distinguished visiting faculties (January, 2007 to March, 2016) : NIL

ii. Special Lectures delivered by invitees. : Industrial Lectures by eminent personality from IT Industry.

iii. Student’s performance in UGC NET/GATE/SET etc.: 20 UGC NET& SET qualified students (appx.)
iv. Student’s placement trends: Most of the students are placed in reputed Industries/MNCs.

v. Distinguished alumni of the Department: NA

vi. Any other relevant information to highlight the strength of the Department.

Achievements of the students

Achievements of the Students:

- 20 UGC NET& SET qualified students (appx.)
- Most of the students are placed in reputed Industries/MNCs.

Activities of the Department

Activities of the Departments:

The Department has organized two National level conferences, i.e. NCCT’15 & NCCT’16. The National Conference on Computational Technologies-2015 (NCCT’15) and The National Conference on Computational Technologies-2016 (NCCT’16) is aiming to bring together numerous of professionals, experts and researchers working in the different fields of Computer Science, Engineering and Applications. NCCT’15 & NCCT’16 were organized by the Department of Computer Science and Application (C.S.A.), University of North Bengal (N.B.U.) in collaboration with Computer Society of India (CSI), Siliguri Chapter.

NCCT’15 and NCCT’16 covered all aspects of information systems design and intelligent applications in the areas of computer science, information technology, communication engineering, management etc. This conference enlightened the participants to share their views and ideas on latest technological developments in an inter-disciplinary perspective.
Photo Gallery

Contacts

Mailing Address:

Head of the Department
Department of Computer Science & Application
University of North Bengal
Raja Rammohunpur
Post: NBU, Dist.: Darjeeling
Pin: 734013, West Bengal, India

Contact No. : 0353-2776344 (O)  Fax: 0353-27763
E-mail : csa.nbu@gmail.com
Website : http://www.nbu.ac.in