

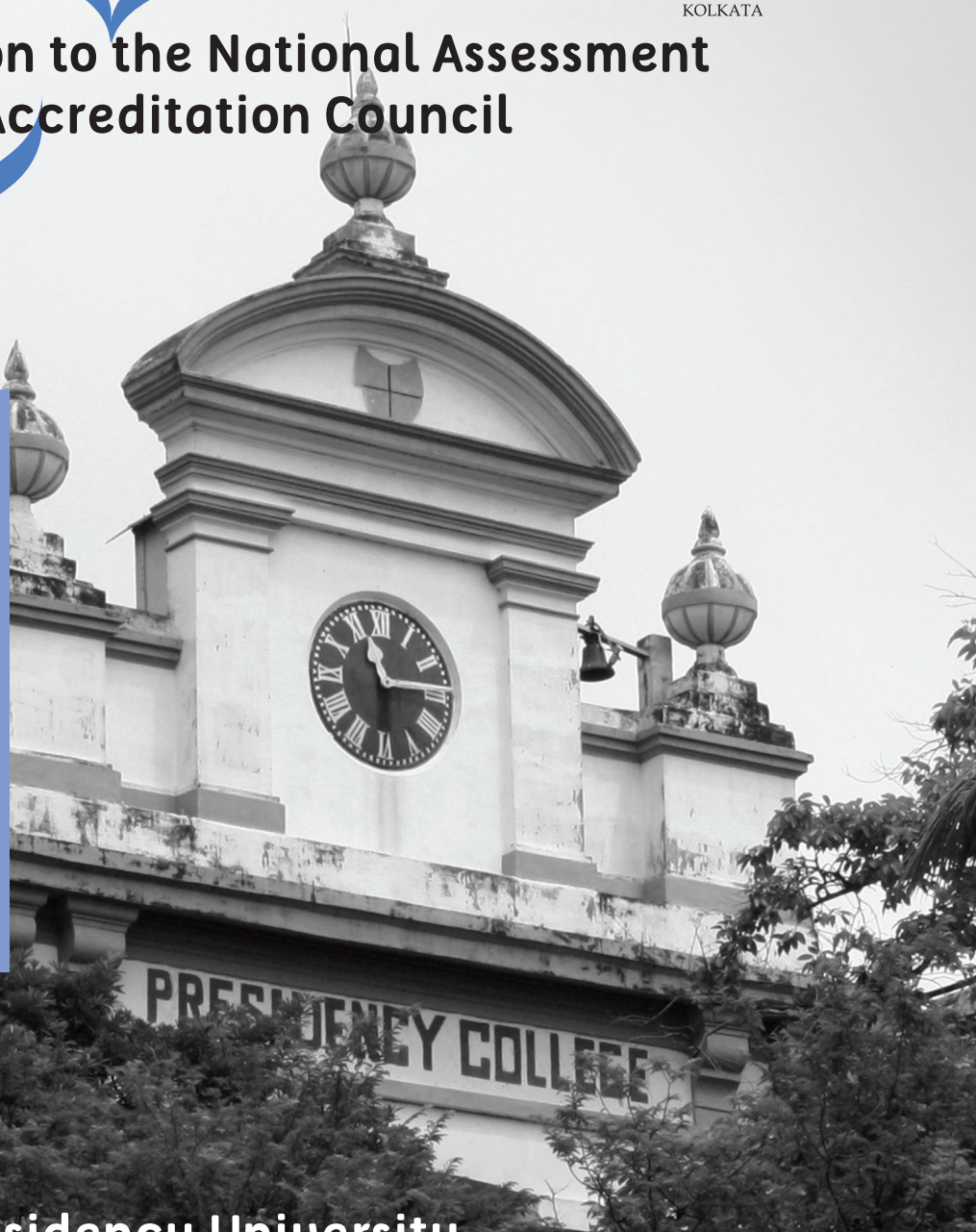
SELF-STUDY REPORT



PRESIDENCY UNIVERSITY
KOLKATA



**For Submission to the National Assessment
and Accreditation Council**



**Presidency University
Kolkata
2016**

(www.presiuniu.ac.in)

**Volume-3
Departmental Inputs
Faculty of Natural and Mathematical Sciences**



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Departmental Inputs
Faculty of Natural and Mathematical Sciences

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Evaluative Report of the Department : Biological Sciences

1. **Name of the Department :** Biological Sciences
2. **Year of establishment :** 2013
3. **Is the Department part of a School/Faculty of the university?** Faculty of Natural and Mathematical Sciences
4. **Names of programmes offered** (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) : B.Sc (Hons) in Biological Sciences, M.sc. in Biological Sciences, PhD.

5. Interdisciplinary programmes and departments involved:

- The Biological Sciences Department is an interdisciplinary department created by merging the Botany, Zoology and Physiology of the erstwhile Presidency College. The newly introduced UG (Hons) and PG degree courses Biological Sciences cut across the disciplines of life science and also amalgamated the elements of Biochemistry, Statistics and Physics in the curricula.
- The UG elective General Education or ‘GenEd’ programmes, replace the earlier system of taking ‘pass course’ subjects and introduce students to a broad range of topics from across the disciplines. This programme is designed to teach them to transcend disciplinary boundaries and to ensure a more holistic liberal development that is in keeping with the academic traditions of the university and current international standards of research. The GenEd programme requires all undergraduate students to take 10 courses over four semesters where students of the Sciences take two compulsory Liberal Arts courses and vice versa. First and second semester students choose 3 options per semester and third and fourth semester students choose 2 options per semester for GenEd programme.

The GenEd courses offered by the Department of Biological Sciences are as follows: For Humanities Students (English, Hindi, Bengali, Political Science, Philosophy, History, Sociology): Insects and Human Life, Wildlife in India, Society and Behavior ,Modern Lifestyle Diseases

Science students only (offered to students of Economics, Mathematics, Physics, Chemistry, Geography, Statistics, Geology): Economic Botany, Genetic Engineering applications and prospects, Macromolecules in Life, Introduction to Plant tissue culture and Genetically Modified Plants

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

7. Details of programmes discontinued, if any, with reasons –

- The Department of Biological Science in Presidency University was created in 2013 by merging together the preexisting Departments of Botany, Zoology, Physiology, Molecular Biology, Biochemistry and Biotechnology. An integrated, revised, interdisciplinary and updated syllabus encompassing almost all branches of biological sciences was formulated and the course of B.Sc and M.Sc in Biological Sciences was introduced, replacing the original syllabi of the merged departments. This updated syllabus integrated the common areas of all cardinal subjects into a common core syllabus taught to the undergraduate students in the first three semesters and to the postgraduate students in the first two semesters. In the remaining semesters, the students are given the choice of specializing in plant sciences, human physiology, zoology, microbiology or cell and molecular biology. The revised syllabi were formulated by retaining the essence of the main subjects and incorporating recent and related applied information.

8. Examination System: Semester with Choice Based Credit System

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9. Participation of the department in the courses offered by other departments:

Faculties of Human Physiology taught certain sections of Human Physiology, Biostatistics and Biochemistry to B.Sc students of Biochemistry.

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others) -

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	11	3	3
Associate Professors and Assistant professors	60	27	27

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance -

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Madhubrata Choudhury	PhD (University of Calcutta), MSc (University of Calcutta)	Associate Professor and Head	Cytological, molecular & phytochemical analysis of important plants. Stress Biology.	Teaching - 30 years Research - 37 years	2
Prof. Nirmal Kumar Sarkar	Ph.D. (University of Calcutta), MSc (University of Calcutta)	Professor	Histopathological and biochemical studies on pollutants	Teaching - 30 years Research - 35 years	2
Dr. Rabindranath Bhattacharyya	Ph.D. (University of Burdwan), M.Sc (University of Burdwan)	Associate Professor	Legume-rhizobia Symbiosis in Environmental Monitoring. Plant Extracts and its green synthesized nano particle as antimicrobial agents	Teaching: 18 Years. Research: 34 Years.	
Souryadeep Mukherjee	MSc (University of Calcutta), CSIR-NET	Assistant Professor	Isolation of Antibacterials, Antioxidants, biotechnologically important enzyme/ proteins.	Teaching: 10 Years Research: 13 Years.13	none
Dr. Kousik Pramanick	Ph.D. (University of Kalyani), MSc (University of Calcutta)	Assistant Professor	Steroidogenesis, oocyte maturation and ovulation in fish.	Teaching: 9 Years Research: 11 Years.	none
Dr. Amlan Ghosh	Ph.D. (Jadavpur University), MSc (University of Calcutta);	Assistant Professor	Oral pathies of type-2 diabetes mellitus, Molecular biology of arsenic induced bladder cancer, epigenetics of prostate cancer.	Teaching: 7 Years. Research: 12 Years.	none

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Pralay Majumder	Ph.D. (University of Calcutta), MSc (University of Calcutta)	Assistant Professor	Ph.D.Cytoskeleton in collective cell migration.	Teaching: 3 Years. Research: 16 Years.	none
Dr. Puja Ray	Ph.D. (R. D. University), MSc (Government Autonomous Science College)	Assistant Professor	Integrated weed and insect pest management.	Teaching: 3 Years. Research: 14 Years.	none
Dr. Santanu Chakraborty	Ph.D. (Miami University), MSc (University of Calcutta)	Assistant Professor	Cardiovascular development and disease.physiology and endocrinology.	Teaching: 3 Years. Research: 15 Years.	none
Dr. Sumit Mandal	PhD (Nagasaki University), MSc (Karnatak University)	Assistant Professor	Marine ecology and biological oceanography	Teaching: 3 Years. Research: 11 Years.	none
Prof. Devashish Sen	M.Sc Calcutta University, M.Phil Calcutta University, Ph.D Calcutta University	Professor	Ergonomics, occupational health and work physiology	Teaching: 29 Years. Research: 25 Years.	2
Prof. Adhar Ch. Manna	M.Sc. (JNU), M. Phil (JNU), PhD (JNU)	Professor	Microbiology, bacterial virulence factors	Teaching: 15 Years. Research: 27 Years.	
Dr. Prabir Kr. Mukhopadhyay	M.Sc (Calcutta University), PhD (Jadavpur University)	Associate Professor	Endocrinology, Reproductive Physiology	Teaching: 27 Years. Research: 30 Years.	1
Dr. Mausumi Sikdar	M.Sc. (Calcutta University), PhD (Burdwan University)	Associate Professor	Microbiology and Nutrition	Teaching: 17 Years. Research: 24 Years.	3
Dr. Shampa Sarkar Biswas	M.Sc (Calcutta University), PhD (Jadavpur University)	Assistant Professor	Reproductive Biology and Endocrinology	Teaching: 7 Years. Research: 14 Years.	

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Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Aparna Mukhopadhyay	MS, PhD (Yeshiva University, USA)	Assistant Professor	Cell Biology, virology	Teaching: 3 Years. Research: 15 Years.	1
Dr. Kalyan Giri	Ph.D (Jadavpur University), MSc. (Jadavpur University)	Assistant Professor	Structure and Function of HIV Accessory Proteins	Teaching: 3 Years. Research: 15 Years.	none
Dr. Devrani Mitra	Ph.D (IIT Kharagpur), MSc. (University of Calcutta)	Assistant Professor	Structural Optogenetics and Molecular spectroscopy on Fe-S proteins	Teaching: 3 Years. Research: 13 Years.	1
Dr. Sanghamitra Dey	Ph.D (Texas A&M University), MSc. (Nagpur University)	Assistant Professor	Structure-Function Analyses of Macromolecules involved in Pathogenesis of Disease conditions	Teaching: 5 Years. Research: 15 Years.	1
Dr. Piyali Mukherjee	Ph.D (University of Calcutta), MSc. (University of Calcutta)	Assistant Professor	Age-Related Neurodegeneration and Mitochondrial Bioenergetics	Teaching: 3 Years. Research: 15 Years.	1
Dr. Ranjana Pal	PhD (JNU), M.Sc. (Calcutta University)	Assistant Professor	Cancer Biology	Teaching: 2 Years. Research: 9 Years.	1
Abhijit Dey	MSc (Calcutta University)	Assistant Professor	Ethnopharmacology and natural products research	Teaching: 9 Years. Research: 10 Years	none
Dr. Malay Das	PhD (Jadavpur University), MSc (University of Kalyani)	Assistant Professor	Plant molecular and evolutionary biology	Teaching: 3 Years. Research: 15 Years.	1
Dr. M. Ganesan	PhD, MSc	Assistant Professor	Plant Biomass Engineering	Teaching: 3 Years. Research: 5 Years.	none

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Nabendu Biswas	PhD, MSc	Assistant Professor	Cancer Cell signalling and apoptosis	Teaching: 3 Years. Research: 8 Years.	1
Dr. Abhik Saha	PhD, MSc	Assistant Professor	Cancer Virology	Teaching: 3 Years. Research: 15 Years.	3
Dr. Atreyi Chatterjee	Ph.D. (Jadavpur University), M.Sc. (University of Calcutta)	Assistant Professor	Eukaryotic Transposable Elements: Mechanism of DNA transposition, DNA transposons and stress response, Cellular control of transposition, Transposons for genome analysis and engineering.	Teaching: 3 Years. Research: 16 Years.	none
Dr. Sugopa Sengupta	Ph.D. (Indian Institute of Science, Bangalore), M.Sc. (University of Calcutta)	Assistant Professor	Architecture of eukaryotic replisome and modulators of DNA topoisomerases.	Teaching: 3 Years. Research: 14 Years.	none
Dr. Sutapa Saha	PhD (Saha Institute of Nuclear Physics), M.Sc. (University of Calcutta)	Assistant Professor	Leukaemia, Proteomics, Mass Spectrometry	Teaching: 3 Years. Research: 11 Years.	none
Dr. Paramita Choudhuri-Basu	PhD (Jadavpur University), M.Sc. (University of Calcutta)	Assistant Professor	Microbiology	Teaching: 3 Years. Research: 10 Years.	none

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors : At present none

13. Percentage of classes taken by temporary faculty – programme-wise information

2% of the UG and 2% of the PG programme.

14. Programme-wise Student Teacher Ratio -

UG 1st Year: 90 student/ 30 teachers: 3:1

PG 1st Year: 50 student/ 30teachers: ~2:1

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15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual –

Category	Sanctioned	Filled
Administrative		
Technical	Group C-5 Group D-11 Sweeper-6 Vacancy-6	3 (Group C) 11 (Group D) Sweeper-6

16. Research thrust areas as recognized by major funding agencies –Vide Annexure

- Bacterial genetics
- Oxidative stress response
- Transgenic plants
- Cancer biology
- Virus Biology
- Toxicology and environmental toxicity management
- Cell Biology
- Reproductive Biology
- Sports Physiology and occupational health

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. (Synopsis to be given here and provide full List in annexure)

National:

Synopsis of Ongoing Research Projects: (details in Annexure with Criterion 3 and Annexure 1)

Funding Agency	Number of Projects	Fund received (Rs)
UGC	16	13118200
DST	10	32602000
CSIR	1	732000
DBT	8	28554299
WB DST	2	3775000
BRNS	1	2494875
OTHERS (Wellcome Trust)	1	35838792
Total (DBS) (ongoing)	39	11,71,15,166

International:

S. No.	Name of funding agency	Project Title	PI/ coPI
1	Jeju National University and National Research Foundation, South Korea	Development of transgenic Bentgrass and Sweet Potato plants with PhyB genes	Korean PI: Song-Pill Soon Indian PI : Dr.M.Ganesan

Departmental Grants:

Scheme	Year of sanction	Fund Sanctioned (Rs)
DST-FIST	2013	2,23,00,000
DBT (DBT BUILDER)	2014	4,94,85,767
Total		7,17,85,767

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration

1. DST SERB: Targeting TRAIL resistance: An approach for preferential killing of advanced stage breast cancer cells (Accepted) PI: Ranjana Pal, Co-PI: Nabendu Biswas Collaborator: Dr. Sanjoy Chatterjee, (Tata Medical centre)
2. Dr. Sutapa Saha: National Collaboration with Prof. Dr. Abhijit Chakrabarti & Dr. Soumen Manna at Saha Institute of Nuclear Physics, Kolkata, Project Title: Investigating Common Molecular Mediators of Leukemia Reversion vs. Leukemogenesis & Molecular Mechanism of Leukemia Reversion in Acute Lymphoblastic Leukemia, Funding Agency: DBT (2014-2017)
3. Dr. Sugopa Sengupta: National Collaboration with Prof. Valakunja Nagaraja at Department of Microbiology & Cell Biology, Indian Institute of Science, Bangalore; Project Title: Understanding the importance of GINS-DNA polymerase interaction during replication., Funding Agency: DBT(2014-2017)
4. Dr. Malay Das: Collaboration with Prof. Amita Pal, Bose Institute. Project Title: Identification and phylogenetic characterization of genes regulating unique flowering behavior in tree bamboo, Funding Agency: Council of Scientific and Industrial Research (CSIR)
5. Dr. Aparna Mukhopadhyay: Collaboration with Dr. Partho Sarothi Ray, IISER, Kolkata. Project Title: Dissecting the molecular events of hepatitis C virus entry using pseudoparticles. Funding Agency: DBT.

b) International collaboration

1. Dr.M.Ganesan: Development of transgenic Bentgrass and Sweet Potato plants with PhyB genes, in collaboration with Jeju National University and National Research Foundation, South Korea, Korean PI: Song-Pill Soon

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- DST-FIST (sanctioned in 2013 for 5 years). Total amount sanctioned: Rs. 2,23,00,000
- DBT-BUILDER: Under the program named “Support to establish DBT- Boost to Presidency University Interdisciplinary Life science Departments for Education and Research (BUILDER)” by DBT, Govt. of India, Department of Biological Sciences, Presidency University, Kolkata had received Rs. 4,94,85,767.00 in 2014

20. Research facility / centre with:

State recognition/ national recognition

- 1) DBT-BUILDER: Under the program named “Support to establish DBT- Boost to Presidency University Interdisciplinary Life science Departments for Education and Research (BUILDER)” by DBT, Govt. of India, Department of Biological Sciences, Presidency University, Kolkata had received Rs. 4,94,85,767.00

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(Rupees Four Crores Ninety Four Lakhs Eighty Five Thousand Seven Hundred and Sixty Seven Only) for a period of 1 Year 0 Month on 28th March 2014 for carrying out following objectives –

1. Infrastructural development of existing laboratories for MS students
2. Providing a basic Computer Facility to every faculty members
3. Development of a basic Instrumentation Facility for Preparatory Labs
4. Development of a basic Instrumentation Facility for Plant Tissue Culture
5. Development of a basic Animal Tissue Culture and Imaging Facility
6. Development of a basic Instrumentation Facility for Spectroscopy

Title: “Support to establish DBT- Boost to Presidency University Interdisciplinary Life science Departments for Education and Research (BUILDER) program”

Project Coordinators: Dr. Abhik Saha and Dr. Piyali Mukherjee

- Two different spaces have successfully developed for conducting and smooth running of MSc practical classes. Work Coordinators: Dr. Madhubrata Choudhury (Head, DBS), Dr. Sugopa Segupta and Dr. Atreyi Chatterjee
- In order to providing a basic computer facility to each and every faculty members of Department of Biological Sciences, a full set of Desktop, UPS and a laserjet printer has been provided.
- A basic Instrumentation Facility for Preparatory Labs: (Facility Coordinator: Dr. Sutapa Saha) A space has been allocated, renovated with proper air conditioning system and the following instruments were procured and subsequently installed for interdisciplinary research by 31 faculty members and conducting practical classes for masters students:
 - ChemiDoc MP System
 - Mini PROTEAN Tetra Cell
 - Mini Transblot module
 - Trans-Blot® Turbo™ Instrument
 - Power Pac Basic and Universal
 - Uview Mini Transilluminator
 - T100 Gradient PCR Thermal Cycler
 - Mini -Sub Cell GT System
 - Wide Mini-Sub Cell GT System
 - Research plus 3-Pack, Option 1 (0,5-10µL/10-100µL/100-1000µL)
 - Research plus 3-Pack, Option 2 (2-20µL/20-200µL/100-1000µL)
 - Centrifuge 5418, incl. rotor, 230V/50-60Hz
 - Concentrator plus, complete system with integrated diaphragm vacuum pump, connection, e.g. for gel dryer without rotor, 230 V/50-60 Hz
 - Mastercycler nexus 230 V/ 50-60 Hz

- Gel dryer
- Eppendorf Eporator, 100-240V/50-60Hz, for bacteria and yeast, with EU-plug
- Elix 3 Water Purification System
- Horizontal Laminar Air Flow
- Analytical Balance (Semi-Micro) Wensar # MAB 182Capacity
- Digital Analytical Balance
- High Precision Balance Wensar
- Hotplate Magnetic Stirrer
- pH Meter (Microprocessor)
- SIMAG ice flaking machine with built-in-bin
- Digital 5 liter Water Bath
- BOD incubator with shaker
- Steam Sterilizer (Autoclave)
- Hielscher Ultra Sonicator System
- BLUE STAR Cold Room
- ELANPRO Upright Refrigerator –frost free, Model: ECG 300; Specification: Temp Range: +2 ~ +10°C, Capacity: 300 Ltrs, Door: glass
- ELANPRO Upright Freezer-Frost free. Make: ELANPRO. Model: EFSV 340, Temp Range: –16°C ~ –22°C Capacity: 340 Ltrs
- Dancing Shaker – MC-01; Tarsons # 3040
- Gel Rocker – ROCKYMAX; Tarsons # 4080
- Vortex Shaker – SPINIX; Tarsons # 3020
- A basic Instrumentation Facility for Plant Tissue Culture: (Facility Coordinator: Dr. Malay Das) A space has been allocated, renovated with proper air conditioning system and the following instruments were procured and subsequently installed for Plant research by approximately 10 faculty members and conducting relevant practical classes for masters students:
 - Premium U570 Upright Freezer
 - Plant Cell Culture Hood (Horizontal); Model No- LI-157
 - Multiparameter Analyser – a) Waterproof handheld Pentype meter; b) Twin Nitrate Meter; c) Twin Potassium Meter; d) Twin Sodium Meter
 - Portable GPS Garmin 20
 - Portable Chlorophyll meter (Konica Minolta) & Leaf Area Meter
 - Incubator Shaker (10 Cu.ft); Catalog No. Model BISL10LX
 - Incubator Shaker (8 Cu.ft); Catalog No. Model BIS8LX

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- Incubator Shaker (8 Cu.ft) Fitted with 6no. FL lamp; Catalog No.Model BLSL8LX
- Plant Growth Chamber (12 Cu.ft); Catalog No. Model PGC12LX
- Plant Growth Chamber (9 Cu.ft); Catalog No. Model PGC09LX
- A basic Animal Tissue Culture and Imaging Facility: (Facility Coordinators: Dr. Piyali Mukherjee for Animal Cell Culture and Dr. Pralay Majumder for Imaging) Two adjacent but interconnected spaces have been allocated, renovated with proper air conditioning system and the following instruments were procured and subsequently installed for Animal research by approximately 20 faculty members and conducting relevant practical classes for masters students:
 - Premium U570 Upright Freezer
 - Centrifuge 5810R Advantage Cell Culture Pack
 - BD Accuri C6 Bench Top Flow Cytometry Analyzer
 - Motic Binocular Stereo Zoom Microscope, MODEL: SMZ-168-BP
 - Carl Zeiss Trinocular Upright Microscope with Epi-fluorescence Model: Axiolab A1
 - Digital 2 liter Water Bath
 - Thermo Scientific 1300 series Class II, Type A2 4 ft Biological Safety Cabinet includes coated interior cabinet walls, manual adjustable height stand, factory installed UV light and one set of armrests Model 1386
 - Thermo Scientific Forma Steri-Cycle CO2 Incubators with T/C sensor, Model 371
 - Thermo Scientific make Locator PLUS Rack and Box Systems, Model Locator 4 PLUS, Cat. No. CY50935-70
 - Wheeled Accessory Cart (5 inches high), Cat. No. AY509X1
 - ELANPRO Upright Freezer-Static Freezer; Make: ELANPRO. Model: EFS 340, Temp Range: -16°C $\sim -22^{\circ}\text{C}$ Capacity: 340 Ltrs, Door: Solid Door
 - ELANPRO Upright Refrigerator –frost free , Model: ECG 300; Specification: Temp Range: $+2 \sim +10^{\circ}\text{C}$, Capacity: 300 Ltrs, Door: glass
- A basic Instrumentation Facility for Spectroscopy: (Facility Coordinator: Dr. Kalyan Giri) A space has been allocated, renovated with proper air conditioning system and the following instruments were procured and subsequently installed for interdisciplinary research by 31 faculty members and conducting relevant practical classes for masters students:
 - Eppendorf BioSpectrometer® basic, 230 V/50 – 60 Hz
 - Eppendorf μ Cuvette™ G1.0
 - UVette routine pack, 2x100 pcs
 - Quartz cuvette
 - Shimadzu UV-VIS Spectrophotometer, UV-2600
 - FPLC with fraction collector, AKTA pure 25 M
 - ELANPRO Upright Refrigerator Frost Free/ Static Cooling. Model: ECG1100, Specification: Forced Air Cooling, Temp Range: $+1 \sim +10^{\circ}\text{C}$ Cap : 1100 Ltrs, Door: 2 Glass Door

- ELANPRO Upright Refrigerator –frost free , Model: ECG 300; Specification: Temp Range: +2 ~ +10°C, Capacity: 300 Ltrs, Door: glass
- ELANPRO Upright Freezer-Static Freezer; Make: ELANPRO. Model: EFS 340, Temp Range: –16°C ~ –22°C Capacity: 340 Ltrs, Door: Solid Door
- Synergy™ H1 is Monochromator-based Multimode Microplate Reader.

international recognition- NIL

21. Special research laboratories sponsored by / created by industry or corporate bodies – NIL

22. Publications: (provide List in annexure)

Number of papers published in peer reviewed journals (national / international):

Paper (peer-reviewed)	national	–
	International	93

- Ø Monographs
- Ø Chapters in Books- 13
- Ø Edited Books
- Ø Books with ISBN with details of publishers
- Ø Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) :
- Ø Citation Index – range / average = 0-46, average is 4.58
- Ø Impact Factor: <1 to 21.56

23. Details of patents and income generated – NIL

24. Areas of consultancy and income generated – NIL

25. Faculty selected nationally / internationally to visit other laboratories / institutions industries in India and abroad -

- Dr. Aparna Mukhopadhyay visited the Albert Einstein College of Medicine, Bronx, NY, USA as a visiting scientist from June-August 2014.
- Prof. Adhar Chandra Manna is visiting as a Visiting Research Scientist, Department of Microbiology & Immunology, Geisel School of Medicine at Dartmouth, Hanover, NH 03755, USA.
- Dr. M.Ganesan visited Department of Biotechnology, Jeju National University, Jeju, South Korea for two months (19-08-2013 to 18-10-2013).
- Dr. M.Ganesan visited Department of Biotechnology, Jeju National University, Jeju, South Korea for two months (9-07-2015 to 16-08-2015).
- Dr. Sumit Mandal was awarded Australian Government Endeavour Research Fellowship in 2015 and worked with Dr. Bayden Russell and Professor Sean D. Connell of Southern Seas Ecology Laboratories, The University of Adelaide, Australia from 2nd April to 30th September, 2015.

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26. Faculty serving in National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr. Rabindranath Bhattacharyya:

Fellow: Elected fellow of Linnean Society of London.

Associate Editor: International Journal of Integrated Research and Development (Section Science and Technology).

Dr. M. Ganesan, Editorial Board Member in a) Journal of Plant science and Research, b) Biodiversitas and c) International Journal of Advanced Pharma and Bioengineering

Dr. Prabir Kr. Mukhopadhyay serves as paper setter/ examiner/ moderator/ reviewer/ member (Board of Studies) at Calcutta, Vidyasagar, Burdwan, Kalyani, Siddho Kano, North Bengal and West Bengal State Universities.

Dr. Prabir Kr. Mukhopadhyay was member of syllabus committees at Vidyasagar University (B.Sc. Nutrition) (2014).

Dr. Abhik Saha is a member of the Editorial Board of Future Microbiology (Editorial Board, 2013-Present) and Infectious Agents and Cancer (Editorial Board, 2013-Present)

Abhijit Dey is a Editorial board member of International Journal of Pharmacology, and International Journal of Botany and Reviewer of the book series Studies in Natural Products Chemistry (Bioactive Natural Products) ISBN: 13: 978-0-444-59603-1. Elsevier Science Publishers, Amsterdam (Book Series), Edited by Prof. Atta-ur Rahman

Dr. Sutapa Saha is member of Human Proteome Organization (HUPO), USA

27. Faculty recharging strategies (UGC, ASC, Refresher/ orientation programs, workshops, training programs and similar programs).

- Orientation Programmes attended:

2012:1

2013: 1

2014: 1

2015: 11

- Refresher Programmes attended:

2013: 1

2014: 1

- Other Workshops attended by faculty:

- Dr. Shampa Sarkar Biswas attended “Workshop on Fundamentals of Animal cell culture and Functional applications” Sept 26-28, 2014, At Institute of Bioinformatics, Bangalore.

- Dr. Ranjana Pal attended a workshop on ‘Proteogenomics and Mass Spectrometry Data Analysis’ held at Institute of Bioinformatics, Bangalore from October 28 - 31, 2013

- Dr. Prabir Mukhopadhyay Workshop on Fundamentals of Animal Cell culture and Functional Applications, at Institute of Bioinformatics, Bangalore, September 26-28, 2014.
- Dr. Prabir Mukhopadhyay attended One-day workshop on “Role of CPCSEA in Animal Welfare” organized by the West Bengal University of Animal Sciences, Kolkata and Ministry of Environment and Forest, Govt. of India, on 2nd Aug, 2014.

Training Courses:

Dr. Shampa Sarkar Biswas successfully completed the short term training course on “Molecular approaches for diagnosis of animal cancers and strategies for developing cancer vaccines” organized at division of Veterinary Biotechnology at Indian Veterinary Research Institute, Izatnagar, UP, from 1-10 Nov 2014.

Dr. Ranjana Pal attended a short course entitled “Molecular approaches for diagnosis of animal cancers and strategies for developing cancer vaccines” at Indian Veterinary Research Institute, Izatnagar from 1st-10th November, 2014

28. Student projects (provide List in annexure)

Percentage of students who have done in-house projects including inter-departmental projects –

- 100% of the students are involved in in-house projects, as it is a part of the curricula.
- Percentage of students doing projects in collaboration with other universities
 - 1 in Jadavpur University (M.Sc. Biological Sciences, 2015)
 - 5 in University of Calcutta (M.Sc. Mol. Bio & Genetics), 2014
- Industry / Institute
 - 2 students in IISER, Kolkata (M.Sc, Mol. Bio & Genetics), 2014
 - 1 student in IISER, Mohali (thorough IAS fellowship, M.Sc-Mol. Bio & Genetics), 2014
 - 1 student in NICED, Kolkata (thorough IAS fellowship, M.Sc-Mol. Bio & Genetics), 2014
 - 1 student in KPC Medical College & Hospital, Kolkata (M.Sc. Mol. Bio & Genetics), 2014
 - 2 students in SINP, Kolkata (M.Sc, Mol. Bio & Genetics), 2014
 - 1 student in IISER, Kolkata, (M.Sc. Biological Sciences, 2015)
 - 2 students in Saha Institute (M.Sc. Biological Sciences, 2015)
 - 1 student in IACS, Kolkata (M.Sc. Biological Sciences, 2015)
 - 1 student in IICB (2014, M.Sc. Human Physiology)

29. Awards / recognitions received at the national and international level by

Faculty -

- Dr. M.Ganesan, Visiting Scientist, Department of Biotechnology, Jeju National University, Jeju, South Korea for two months (19-08-2013 to 18-10-2013).
- Dr. M.Ganesan, Visiting Scientist, Department of Biotechnology, Jeju National University, Jeju, South Korea for two months (9-07-2015 to 16-08-2015).
- Dr. Ranjana Pal: Canadian Institutes of Health Research/ Le Fonds de la recherche en santé du Québec training grant in cancer research of the McGill Integrated Cancer Research, 2012

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- Dr. Ranjana Pal received eLife Poster Award (2014 NextGen Genomics & Bioinformatics Technologies (NGBT) Conference' organized at NIMHANS, Bangalore 17th -19th November 2014)
- Dr. Abhik Saha: 2012: Ramanujan Fellowship, DST, Govt. of India
- 2014: Selected as 'Young Investigator' at YIM, 2014 Hyderabad
- 2015: Wellcome Trust/ DBT India Alliance Intermediate Fellowship

Doctoral / post doctoral fellows- None

Students – None

30. Seminars/ Conferences/Workshops organized and the source of funding (national international) with details of outstanding participants, if any. (full List in annexure)-

- a. Seminar by Prof. Ranjan Sen, Center for DNA Fingerprinting and Diagnostics, Hyderabad, on "Regulations of Rho-dependent transcription termination in bacteria" on 16th January, 2015. Organizers: Dr. Abhik Saha and Dr. Piyali Mukherjee
- b. National symposium on 'Molecules to Systems' held at Presidency University during 29th – 31st Jan, 2015, Sponsored by DBT-BUILDER program at Presidency University. Organizers: Convener: Dr. Abhik Saha; Secretary: Dr. Piyali Mukherjee; Treasurer: Dr. Sutapa Saha

Invited Speakers: –

- XXII. Prof. Alok Bhattacharya, Jawaharlal Nehru University, New Delhi
- XXIII. Prof. Anand K. Bachhawat, Indian Institute of Science Education and Research, Mohali
- XXIV. Prof. Anuradha Lohia, Vice Chancellor, Presidency University, Kolkata
- XXV. Dr. Arockiasamy Arulandu, International Centre for Genetic Engineering and Biotechnology, New Delhi
- XXVI. Dr. Aurnab Ghose, Indian Institute of Science Education and Research (IISER), Pune
- XXVII. Dr. Benu Brata Das, Indian Association for the Cultivation of Science
- XXVIII. Prof. Debashis Mitra, National Centre for Cell Science, Pune
- XXIX. Prof. Dipankar Chatterji, Indian Institute of Science, Bangalore
- XXX. Prof. Gaiti Hasan, National Centre for Biological Sciences, Bangalore
- XXXI. Dr. Harsha Gowda, Institute of Bioinformatics, Bangalore
- XXXII. Dr. Kaustuv Sanyal, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
- XXXIII. Dr. Lolitika Mandal, Indian Institute of Science Education and Research, Mohali
- XXXIV. Prof. LS Shashidhara, Indian Institute of Science Education and Research (IISER), Pune
- XXXV. Prof. Pinak Chakrabarti, Bose Institute, Kolkata
- XXXVI. Prof. Raghavan Varadarajan, Indian Institute of Science, Bangalore
- XXXVII. Prof. Samit Chattopadhyay, National Centre for Cell Science, Pune

- XXXVIII. Dr. Sandhya P. Koushika, Tata Institute of Fundamental Research, Mumbai
- XXXIX. Prof. Sujoy K. DasGupta, Bose Institute, Kolkata
- XL. Prof. Sumantra Chatterji, The Institute for Stem Cell Biology and Regenerative Medicine, Bangalore
- XLI. Dr. Suvendra N. Bhattacharyya, Indian Institute of Chemical Biology, Kolkata
- XLII. Prof. Vaskar Saha, TATA Medical Centre, Kolkata
- c. Seminar by Prof. Suman Dhar, Jawaharlal Nehru University, New Delhi on “A Multidisciplinary approach to understand and inhibit DNA replication in human malaria parasite Plasmodium falciparum” on 3rd Feb, 2015. Organizers: Dr. Abhik Saha and Dr. Piyali Mukherjee
- d. National symposium on “Environmental Impact on Biodiversity and Plant Development” held on February 19th - 20th Feb, 2015 at Presidency University, Kolkata. Organizing secretary and convener: Dr. Malay Das, Treasurer: Dr. Kamala Gupta.

Invited speakers:-

- I. Prof. J. P. Khurana, University of Delhi, South Campus
- II. Prof. KNG Ganeshiah; GKVK, Bangalore
- III. Prof. Dipankar Chakraborti; Jadavpur University, Kolkata
- IV. Prof. Bernard Paul; Université de Bourgogne, France
- V. Dr. A. C. Anil; National Institute of Oceanography
- VI. Prof. Narendra Tuteja; ICGEB, New Delhi
- VII. Prof. Paramjit Khurana; University of Delhi, South Campus
- VIII. Prof. Ashwani Pareek; Jawaharlal Nehru University, New Delhi
- IX. Prof. Sanjib K. Panda; Assam University, Silchar
- X Prof. Subhra Chakraborty; National Institute of Plant Genome Research, New Delhi
- XI. Prof Santanu Ray; Visva-Bharati University, Shantiniketan
- XII. Dr. Manoj Prasad; National Institute of Plant Genome Research, New Delhi
- XIII. Dr. P. V. Shivaprasad; National Centre for Biological Sciences, Bangalore
- XIV. Prof. Usha Vijayraghavan; Indian Institute of Science, Bangalore
- XV. Prof. Sudip Chattopadhyay; National Institute of Technology, Durgapur
- XVI. Dr. Anjan K. Banerjee; Indian Institute of Science Education and Research, Pune
- XVII. Dr. Sourav Datta; Indian Institute of Science Education and Research, Bhopal
- XVIII. Prof. Anindya Sinha; IAS, Bangalore
- e. Environmental Impact on Biodiversity and Plant Development (19th February, 2015- 20th February, 2015), DBT-BUILDER programme, Department of Biotechnology, Govt. of India

List of invited speakers:

1. Prof. Jitendra P Khurana

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2. Prof. KNG Ganeshiah
3. Prof. Dipankar Chakraborti
4. Prof. Bernard Paul
5. Prof. Narendra Tuteja
6. Prof. Paramjit Khurana
7. Prof. Ashwani Pareek,
8. Dr. A. C. Anil
9. Prof. Sanjib K. Panda
11. Prof. Subhra Chakraborty
12. Prof. Santanu Ray
13. Dr. Manoj Prasad
14. Dr. P.V. Shivaprasad
15. Prof. Usha Vijayraghavan
16. Prof. Sudip Chattopadhyay
17. Dr. Anjan K. Banerjee
18. Dr. Sourav Datta

f) National Symposium on “Modern trends in Biological Sciences was Organized by The Physiological Institute, Presidency University, Kolkata, India on February 21-23, 2014. The speakers were

1. Dr. Bhaskar Saha,
2. Dr. Uday Bandyopadhyay,
3. Dr. Sekhar Chakrabarti,
4. Dr. Partha Sarathi Mukherjee,

Invited Lectures by eminent scholars:

Topic of talks/ Area of Expertise	Speakers
Green House gases and bioenergy: Theologians and radicals have a laugh whilst Martians eat metals	David Richardson, VC University of East Anglia, UK
All about the brain	Dr Sourav Banerjee, NBRC
Future of learning	Prof Sugata Mitra
Translational Research leading to therapeutic approaches	Dr Manas Majumder, Former irector TCG Life Siencie
A Multidisciplinary approach to understand and inhibit DNA replication in human malaria parasite Plasmodium falciparum"	Prof AN Dhar, JNU
Regulations of Rho -dependent transcription termination in bacteria	Dr Ranjan Sen, CDFD Hyderabad
Signaling Photoreceptors: Time-resolved crystallography and Protein Design	Prof Keith Moffats, University of Chicago

Topic of talks/ Area of Expertise	Speakers
Plant Taxonomy	Prof. Gour Gopal Maity, Kalyani University
Reproductive Biology	Dr. Sayed N. Kabir, IICB, Jadavpur
Ergonomics, Environmental biologist	Dr. Debdut Ghosh Thakur, Chief Editor, Anadabazar Patrika Limited.
Sports Physiology	Prof. Pratima Chatterjee, Rajabazar Science College.
Sports Physiology, Ergonomics, Community Health	Prof. Prakash Dhara, Vidyasagar University
Industrial design	Prof. G. G. Ray, IIT Mumbai

31. Code of ethics for research followed by the departments

- The Institutional Biosafety Committee (IBSC) at Presidency University was constituted on 12th August, 2013. The internal members of IBSC meet regularly and the recombinant DNA safety guidelines are strictly followed in the institute. A yearly meeting is also held with the external experts to discuss projects that need biosafety clearance. Biosafety regulations and guidelines have also been incorporated in the curriculum of the Ph.D coursework of the students.
- The Institutional Animal Ethical Committee for Presidency College was formed in 2003 and renewed in 2011 upon the formation of Presidency University. The Registration No. is 796/03/ac/CPCSEA. The committee meets regularly twice a year and is currently undergoing a renewal of the committee, where three internal members of the existing committee will be changed. An animal house is currently operational in the Physiology section and has been renovated as per the guidelines of CPCSEA. A new animal house with breeding facility will be constructed to accommodate the growing needs of all faculties of DBS at another location at Presidency University and planning is currently underway.
- The Human Ethics committee was formed in 2010 as per the guidelines of ICMR. This committee was authorised in 2013 for another 4 years by ICMR.

32. Student profile programme-wise

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage (as per previous year results)	
		Male	Female	Male	Female
UG sem1 (2013)	4409	20	34	100	100
PG sem 1 (2013)		22	34	100	100
UG sem1 (2014)	4334	26	35	100	100
PG sem 1 (2014)	1213	22	36	100	100
PhD	170	17	20		
UG sem1 (2015)	4409	27	45	100	100
PG sem 1 (2015)	1145	19	47	100	100

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33. Diversity of students-

Name of the Programme(refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
PG sem 1 (2013)	40%	57%	3.5%	0
PG sem 1 (2014)	74%	26%	1/58= 1.7%	0
PG sem 1 (2015)	60%	40%	–	0

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- NET: 20
- GATE: 6
- West Bengal Civil Service: 1

35. Student progression–

Student progression	Percentage against enrolled
UG to PG	96%
PG to M.Phil.	-
PG to Ph.D.	5%
Ph.D. to Post-Doctoral	
Employed	
• Campus selection	none
• Other than campus recruitment	All pass outs are employed in different sectors including academic, management, administrative
Entrepreneurs	-

36. Diversity of staff--

Percentage of faculty who are graduates	
of the same university (Presidency College)	20%
from other universities within the State	70%
from universities from other States	10%
from universities outside the country	0%

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period –Two

38. Present details of departmental infrastructural facilities with regard to:

Library:

The seminar library of Human Physiology section houses about 226 books that cover various topics of Human Physiology such as circulatory, renal, sports, reproductive, endocrinology, nutrition, social as well as general topics such as microbiology, cell biology, genetics and molecular biology.

Internet facilities for staff and students- WiFi and LAN

39. Total number of classrooms - 6

Class rooms with ICT facility: 3

Students' laboratories: 7

Research laboratories: 22

40. List of doctoral, post-doctoral students and Research Associates -

From the host institution/university: Doctoral students: 8

From other institutions/universities: 30

41. Number of post graduate students getting financial assistance from the university. – 2

42. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- Workshop in department with experts from all fields followed by discussion in the BOS and finally ratification by the Faculty Council and the GB.

43. Does the department obtain feedback from

- a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
- b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Student-teacher committee and constant informal feedback from students help in improving the teaching strategy, organization of the course modules. A separate Central Committee assesses the evaluation and prepare a report. The Department acts accordingly.

- c. alumni and employers on the programmes offered and how does the department utilize the feedback?

Alumni and academic experts exchange their opinions through seminars, talks and discussions that are taken into account while revising the syllabi. The present course on Biological Science is an outcome of brainstorming sessions involving national and international experts in the field.

44. List the distinguished alumni of the department (maximum 10)

Distinguished Alumni of DBS

a) Human Physiology

- 1 Prof Subhash Mukhopadhyay
- 2 Prof Sacchidananda Banerjee
- 3 Prof Sukhomoy Lahiri
- 4 Prof Indira Chakraborty
- 5 Prof Alope Banerjee
- 6 Prof Debojyoti Das

b) Botany

- 1 Prof B B Biswas

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- 2 Prof P N Bhaduri
- 3 Prof J C Sen Gupta
- 4 Prof K P Biswas
- 5 Prof S P Sen
- 6 Prof A K Banerjee
- 7 Prof H C Ganguly
- 8 Prof K R Samaddar

c) Zoology

- 1 Prof Ardhendu Sekhar Mukherjee
- 2 Prof Banku Behari Ganguly
- 3 Prof Somes Sanyal
- 4 Prof Amal Bhattacharya
- 5 Prof Simananda Adhikary
- 6 Prof Arup Sinha

45. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts. (provide List in annexure)

- **Brain Awareness Week (March 7th-12th):** Dr. Piyali Mukherjee in association with Manovikas Kendra, Kolkata organized a Brain Awareness week at Presidency University from March 7th-12th, 2015 as a part of the worldwide effort by Dana Foundation. This event saw active participation from students not only from DBS but also from Physics and sociology. A Brain Fair was organized as a part of this program where students from different schools across the city visited. Our students displayed several brain models and two of them were selected for presentation at the annual function of NBRC, Manesar on December 16th, 2015. This program was partly funded by NBRC

46. List the teaching methods adopted by the faculty for different programmes. -

- Chalk and talk, Power point slides, Group studies, Seminars, Self studies and presentations, Problem-based, thought-provoking and interactive class lectures
- Conduct class presentation followed by group discussion among a group of students (15-20) for a selected topic – for example Infection Biology.
- Personal grooming
- Educational field trips both within and outside the state.

47. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- (a) Continuous evaluation in classes (b) Class tests (c) Student Seminars/ Journal Clubs (d) two internal assessment examinations every semester (d) Grand viva for both theoretical and practical modules at the end of each semester

48. Highlight the participation of students and faculty in extension activities. -

- Dr. Sutapa Saha was member of the Organizing committee (Treasurer) for the National Symposium on Molecules to Systems, organized by the Department of Biological Sciences, Presidency University from 29th to 31st January, 2015; funded by DBT-BUILDER grant.
- Dr. Sutapa Saha Conducted a 2-day workshop on mass spectrometry based protein identification for the M.Sc. Molecular Biology & Genetics Students (2012-2014 batch) at the Proteomics Facility, Saha Institute of Nuclear Physics, Kolkata, from 2nd to 3rd December, 2013).

49. Give details of “beyond syllabus scholarly activities” of the department. sectional incharges

- Nutritional survey and assessment of different physiological parameters such as anthropometry, hematological were conducted by undergraduate and postgraduate physiology students every year in different regions of Sikkim and North Bengal.
- Visits to IICB were conducted for undergraduate students of Human Physiology in 2013 and 2014.
- Visits to neighboring research institutes like SINP in Kolkata for gaining hands on experience with sophisticated Research Instruments.
- Guest lectures wherein prominent Scientists visit us and interact with students and provide guidance for future prospects in the field of Modern Biology Research.
- Students are encouraged to apply for various Summer research fellowships and selected candidates are provided with opportunity to carry out short term (2 months) summer projects at different institutes like TIFR, NCBS, IISc, CCMB, IISER- Pune, IISER-Kolkata, JNCASR, Bangalore. etc.
- Dr. Piyali Mukherjee conducts a student outreach program called “Brain Matters” where her team visits different schools in Calcutta to create awareness about science in general and brain in particular. Her team comprises of the undergraduate students of DBS and the students are enthusiastically involved in the design and execution of this program to generate excitement among the young audience. The students are also actively involved in research activities in the lab and regularly attend lab meetings and journal clubs.

50. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The department has been actively involved in outreach and has made a number of fruitful collaborations with other institutes and universities locally, nationally and globally. In recent times, a number of research projects were granted to the faculties. Our students have found their places for post graduation, doctoral and post doctoral studies in many recognized universities and institutes within India and abroad. We have well equipped laboratories provided to the students and research scholars, which are also supported by central instrumentation centre (CIC) housing a number of instruments and facilities needed for basic and applied research. Such a facility has been extended to the faculties and students of DBS as well as other Departments, whenever required. We have developed a number of such CIC in our Department utilizing the financial grant from DBT-BUILDERS .

The department provides laboratory facilities to the faculties working on diverse fields of biological sciences, both in the basic and the applied fields, such as cancer biology, structure biology, molecular biology and genetics, informatics, biophysics, biochemistry, ethnopharmacology, natural products chemistry, ecology and environmental science ,neurobiology ,ergonomics , microbiology, developmental biology , to name a few.

The University library has provided free access to a number of journals from reputed international publishing houses related to various fields of biological sciences. The Library facilities offer a very useful source of books, journals, monographs and e-versions of available resources which are accessible to the faculties, scholars and students even beyond the working hours.

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Our well-known museums provides a huge collection of herbaria and preserved museum specimens, some of which have also been documented as e-resource serving as instant references needed for basic research. Moreover, in this very short span, we have organized a few national symposia, talks, seminars and workshops at university and national levels. The department indeed is an academic abode not only for Presidency's students but also for research scholars outside of the institution.

51. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The combination of newly recruited faculty from diverse fields of biology and training from various regions of the world along with senior, experienced faculty with years of excellent undergraduate and postgraduate teaching has brought about an ideal mixture of talent and resources.

52. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths	●	Passion to excel in the newborn university.
	●	The newly appointed faculty of the Biological Sciences has a right balance of young and experienced minds having considerable expertise and tremendous urge to establish the institution as a centre of academic excellence in the global arena.
	●	Influx of arguably the best of young brains from the eastern and north-eastern part of the country as both under-graduate and post-graduate students.
	●	Eagerness of the faculty members to work in inter- disciplinary areas of life sciences as a cohesive unit.
	●	Team-members have great expertise and proven track records in undertaking each of the programs as evident from their research experience and publications.
Weaknesses	●	Space constraints.
	●	Necessity to procure considerable amount of funds to build up research and academic facilities, as the institution still suffers from age-old infrastructural facilities from the days when it was used to run as a college.
	●	Though the faculty members have well- proven track records, they are yet to prove their merit at Presidency University since they have been very recently appointed.
Opportunities	●	Location in metropolitan city
	●	A cutting- edge research facility to benefit both the students and faculty.
	●	Increase in the number of faculty members
	●	Recruitment of faculty adequate to studentteacher ratio requirements
	●	Outreach programme involving the local communities to conserve and parturitate the dying ethnic knowledge and scientific know how.
Challenges	●	State- of- the- art facilities to undertake cutting- edge research.
	●	Coping with the ever changing technology and quality standards.

53. Future plans of the department.

Future directions

1. To initiate the introduction of a number of inter-disciplinary courses with departments like Physics, Economics, Geography, Sociology, Statistics etc.

2. To expand the existing collaborations regarding student and faculty exchange programs at national and global levels.
3. To achieve higher success rates of students in NET and other tests at national level. Our students are already known to qualify for such examinations with very high success rate. Recently, students have been using free wi- fi facilities and are able to access various research journals and similar e-resources which have been helping them as important resource of study materials for examinations, research etc.
4. To reach out to the national as well as international levels of research with more frequent organization of seminars, talks, workshops, symposia etc.
5. A new campus at Kurseong has been initiated by the university which might provide an excellent working base to study Himalayan biodiversity and ecology in its natural habitat, since some of our faculty have specialized in those areas.
6. A renovation in developing and upgrading the pre-existing herbaria and museum facilities with possible conversion of the entire herbaria as e –resource, some of which has already been achieved. The department will also apply to acquire an acronym for the departmental herbaria housing some historically important as well as some more recent plant samples covering a huge number of plant families.

Annexures 1

List of Research Projects in Last four Years (only projects with faculty as PI)

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed/ongoing
1	2014	2017	DBT	PI: Prof Adhar C Manna. Co-PI: Dr. Aparna Mukhopadhyay	Biochemical characterization of SarA and SarR regulators in S. aureus to study molecular genetics	45 Lakhs		Ongoing
2	2014	2017	BRNS, Department of Atomic Energy	PI: Prof. Adhar C Manna	Understanding mechanism of oxidative stress responses by studying catalase regulation in S. aureus	26.6 Lakhs		Ongoing
3	2011	2014	ICMR	PI: Dr. Nirup B. Mondal (IICB), co-PI: Dr. Shampa Sarkar (Biswas)	Evaluation of Chenopodium album seed extract as potential spermicidal agent in different mammalian species and chemical investigations for the lead molecule.	27.16 lakhs		Completed
4	2015		WBDBT	PI: Dr. Puja Ray, Co PI: Abhijit Dey	Evaluation of phytopathogens associated with some major aquatic weeds with emphasis on their toxin production	22.13 lakhs		Ongoing
5	2014	-	Council of Scientific and Industrial Research (CSIR)	PI: Dr. Malay Das,	Identification and phylogenetic characterization of genes regulating unique flowering behavior in tree bamboo	20		Ongoing
6	2015	-	University Grant Commission (UGC)	PI: Dr. Malay Das, PU	Targeted identification of novel stress responsive gene copies in Brassica arisen through gene	13.80		Ongoing
7	2012	present	DST	PI: Bijetri Bandyopadhyay, co-PI: Prof. Devashish sen co-PI: Prof. Gour Gopal Ray (IIT, Mumbai)	An ergonomic study of occupational health problems of women construction workers in unorganized sectors of West Bengal, determination of safe load limit and some suggestive remedial measures.	Rs. 29.08 Lakh		Last instalment pending

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed/ongoing
8	2015	2018	DBT	PI: Dr. Aparna Mukhopadhyay co-PI: Dr. Partho Sarothi Ray, IISER, Kolkata	Dissecting the molecular events of hepatitis C virus entry using pseudoparticles	28.5 lakhs		Ongoing
9	2013	2018	DST, Govt. of India	Dr. Abhik Saha	Targeting Apoptosis-Autophagy Network in Virus Associated Human Cancers – A Therapeutic Approach	89,00,000.00	32,40,000.00	Completed, Relinquished on 2015 as started Wellcome Trust DBT IA
10	2014	2017	DBT, Govt. of India	Dr. Abhik Saha Co-PI Dr. Nabendu Biswas	Targeting Autophagy-Apoptosis Network as a Potential Therapeutic Strategy against Chronic Myeloid Leukemia	61,43,000.00	3507600.00	Ongoing
11	2015	2020	Wellcome Trust/ DBT India Alliance	Dr. Abhik Saha	Understanding the Molecular Crosstalk between Unfolded Protein Response and EBV pathogenesis in developing B-cell Lymphomas	3,58,38,792.00	10,117,100.00	Ongoing
12	2014		University Grants commission	Dr. Nabendu Biswas	Targeting TRAIL receptors by plumbagin: An approach for preferential killing of leukemic cells	600,000	600,000	Ongoing
13	2015		DST	Dr. Nabendu Biswas	Enhancement of TRAIL efficacy on Imatinib-resistance Chronic myelogenous Leukemic Cells: Deciphering the Imatinib resistance-TRAIL expression pathway	23,50,000	900,000	Ongoing
14	2014	2017	DBT	Dr. Sutapa Saha	Investigating Common Molecular Mediators of Leukemia Reversion vs. Leukemogenesis & Molecular Mechanism of Leukemia Reversion in Acute Lymphoblastic Leukemia	Rs. 15.80 Lakhs	Rs. 6.60 Lakhs	Ongoing
17	2014	2016	UGC	Sanghamitra Dey	Biochemical characterisation of sirtuin in plants	6 Lakhs	6 Lakhs	Ongoing
18	2015	2018	DBT	Sanghamitra Dey	Molecular mechanism of Sirtuin7 in tumorigenesis	25 Lakhs	15 Lakhs	Ongoing

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Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed/ongoing
15	2014	2017	DBT	Dr. Sugopa Sengupta	Understanding the importance of GINS-DNA polymerase interaction during replication.	Rs. 54.36 Lakhs	Rs. 32.6 lakhs	Ongoing
16	2015	2018	DST	Dr. Atreyi Chatterjee	Functional characterization and analysis of a novel mammalian piggybac transposon in <i>S. pombe</i>	Rs. 26.66 lakhs	Rs. 13 Lakhs	Ongoing
19	2015	2018	DST	Sanghamitra Dey	Molecular mechanisms of rice sirtuin under oxidative stress conditions	54.7 Lakhs	NOT RECEIVED YET	Ongoing
20	2015	2018	DST FAST TRACK	Pralay Majumder	Collective cell migration: How microtubules are regulated by polarity protein Par-1	Rs. 28,00,000	Rs. 11,00,000	Ongoing
21	2015	2018	UGC MRP	Pralay Majumder	Protrusion: the role of actin cytoskeleton	Rs. 11,30,000	Rs. 7,05,000	Ongoing
22	2015	2018	DST-SERB	Kousik Pramanick	Potential role of interleukin 6 (IL6) in ovarian function in climbing perch, <i>Anabastestudineus</i> : a basic study to investigate endocrine-immune control of reproduction in teleost fish	3200000	1400000	Ongoing
23	2015-16	2018-19	DST	Devrani Mitra	Identification and validation of structural hotspots in signaling network of few blue light responsive photoreceptors using complex networks and biophysical techniques	~31 lakhs (Approved)	----	Ongoing
24	Sept. 2014	Aug. 2016	UGC	Amlan Ghosh	Identification and molecular characterization of high risk human papilloma virus (HR-HPV) in oral exfoliated cells of a clinically normal eastern Indian population for assessment of the risk of oral cavity cancer	Rs. 6,00,000	Rs. 6,00,000	Ongoing
25	Nov. 2014	Oct.2017	DBT (West Bengal)	Amlan Ghosh	Identification of susceptible gene associated with arsenic induced bladder cancer in West Bengal, India.	Rs. 15,62,000/	Rs. 8,14,000/	Ongoing

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed/ongoing
26	2015		DST2	Dr. Piyali Mukherjee	Understanding the regulation of mitochondrial bioenergetics in Parkinson's disease	25 Lakhs	14 Lakhs	Ongoing
27	2015	2018	UGC	Dr. Piyali Mukherjee	Regulation of mitochondrial bioenergetics and apoptosis induction in T cell Lymphomas	12.7 Lakhs	6.7 Lakhs	Ongoing
28	2016	2019	West Bengal DST	PI: Dr. Rabindranath Bhattacharya, co-PI: Abhijit Dey	Possible therapeutic application of some Mangroves of Sundarbans against some potent human pathogens	11.01 Lakhs		Ongoing
29	2013		UGC	Dr Madhubrata Choudhury	"Cytological & phytochemical analysis, molecular characterization & invitro propagation of some Indian species of Ornithogalum L"	Rs 11 lakh	Rs 11 lakh	Ongoing

Annexures 2

List of Seminars and Conferences Organized in last three years-

Sl No.	Date/Month	Topic	Source of Funding	Status
1	27th November, 2013	microRNA in Regenerative Medicine	University	student enrichment
2	21st February, 2014	Designing of a Novel Tryptamine-Gallic Acid Hybrid to Prevent Non-steroidal Anti-inflammatory Drug (NSAID)-induced Gastric Ulcer/Gastropathy	University	student enrichment
3	21st February, 2014	Macrophage-Leishmania Interaction: Fine Specificity in Switching CD40 Signaling	University	student enrichment
4	21st February, 2014	Ergonomics in Public Health	University	student enrichment
5	21st February, 2014	Molecular Characterization of HIV-1 Strain Circulating Among the Injecting Drug Users in Manipur, India.	University	student enrichment
6	19th & 20th February, 2015	Environmental Impact on Biodiversity and Plant Development	DBT-BUILDER	National
7	16th Jan, 2015	Regulations of Rho-dependent transcription termination in bacteria	Institutional	National

Sl No.	Date/Month	Topic	Source of Funding	Status
8	29th – 31st Jan, 2015	Molecules to Systems	DBT-BUILDER	National
9	3rd Feb, 2015	A Multidisciplinary approach to understand and inhibit DNA replication in human malaria parasite Plasmodium falciparum	Institutional	National
10	19th – 20th Feb, 2015	Environmental Impact on Biodiversity and Plant Development	DBT-BUILDER	National
11	7th and 8th October, 2013	2 days workshop on Applications of HPTLC in determination of bioactive compounds (joint convenor: Abhijit Dey)	Department of Botany, Presidency University	

Annexures 3

Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
1	Dr. Rabindranath Bhattacharyya	6-th International Botanical Conference on Role of botanist on global climate change	06 and 07 Dec., 2014	Bangladesh Botanical Society	International	Participant
2	Dr. Rabindranath Bhattacharyya	Conference on antimicrobial research - ICAR 2014	1-3rd October, 2014.	Formatex Research Center Madrid, Spain.	International	Participant
3	Dr. Rabindranath Bhattacharyya	The first international conference on Bio-resource and stress management	February 6-9, 2013	Ratikanta Maiti foundation	International	Participant
4	Dr. Rabindranath Bhattacharyya	National Conference on "Frontiers in Life Sciences"	12-th and 13-th Dec. 2015	Alumni Association, School of Life Sciences, Sambalpur University, Odisha	National	Speaker
5	Dr. Rabindranath Bhattacharyya	National Seminar on Recent Advances in Natural Products Chemistry for Drug Discovery, Udaipur, Gomati Tripura, INDIA	November 28th & 29th, 2015	Netaji Subhas Mahavidyalaya, Tripura	National	Invited Speaker
6	Dr. Rabindranath Bhattacharyya	REFRESHERS COURSE (4 Lectures)	17th -18th Oct. 2014	Sambalpur University	National	Resource Person
7	Dr. Rabindranath Bhattacharyya	Refreshers course at jadavpur university	11/06/2014	Jadavpur University	National	Resource Person

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
8	Dr. Rabindranath Bhattacharyya	National conference on current trends in life sciences research and challenges ahead	28th Feb.-2nd Mar. 2014,	Sambalpur University, ODISHz, INDIA.	National	Participant
9	Dr. Rabindranath Bhattacharyya	21st west bengal state science and technology congress	20.02.2014	Department of Science & Technology, Govt. of West Bengal & The University of Burdwan, Burdwan, West Bengal, India	National	Participant
10	Dr. Rabindranath Bhattacharyya	National conference on new frontiers in medicinal plant research, gangtok , sikkim, india .	3-4 October, 2013	Sikkim University	National	Participant
11	Dr. Rabindranath Bhattacharyya	Refreshers course at jadavpur University	27/07/2013	Jadavpur University		Resource Person
12	Prof. Devashish Sen	An attempt to develop a scale to determine the reflection of aggression in assumed posture among motorbike riders	6th -9th December	International Ergonomic conference HWWE, held at IIT Bombay.	International	Lead Lecture
13	Prof. Devashish Sen	Effect of aggression on posture and postural stress among bike riders under occupational compulsion	17th December-19th December	IABMS Conference, Pondicherry University, Puducherry.		Invited lecture
14	Prof. Adhar Ch. Manna	Developing anti-microbial therapeutics based on alternative approaches	July 24, 2015	Department of Biotechnology, North Bengal University, Siliguri, WB, India	National	Invited Speaker
15	Prof. Adhar Ch. Manna	Developing anti-microbial therapeutics based on alternative approaches	23rd April, 2015	School of Biotechnology, Jawaharlal Nehru University, New Delhi, India		
16	Dr. Prabir Kr. Mukhopadhyay	Alpha-tocopherol and ascorbic acid protect against arsenic-mediated toxicity of adult male rats	February 23, 2015	Krishnagar Govt. College		
17	Dr. Prabir Kr. Mukhopadhyay	Protection of arsenic effects on reproductive system of adult male rat by combined application of a-tocopherol and ascorbic acid.	January 29-31, 2015,	National Symposium on "Molecules to Systems", Presidency University, Kolkata.	National	Poster

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18	Dr. Prabir Kr. Mukhopadhyay	Protection of arsenic effects on reproductive system of adult male rat by combined application of α -tocopherol and ascorbic acid.	Feb-14-17, 2015	International Conference on Reproductive Health and the 25th Annual Meeting of the Indian Society for the Study of Reproduction & Fertility (ISSRF-2015). Organized by the National Institute for Research in Reproductive Health (NIRRH), Mumbai.		
19	Dr. Prabir Kr. Mukhopadhyay	Mitigation of arsenic-mediated toxicity in hepatic, renal and hematological systems by high protein supplementation in adult male rats	7-9th Dec 2015	International Ergonomic conference HWWE, held at IIT Bombay.	International	Invited Speaker
20	Dr. Prabir Kr. Mukhopadhyay	Management on arsenic mediated male reproductive disorders by application of vitamin E and C	17th to 20th December 2015	36th Annual Conference IABMS, held at Pondicherry		
21	Dr. Shampa Sarkar Biswas	Effect of angiotensin II blocker in extracellular matrix remodelling in cryptorchid rat as a model	29-31 Jan 2015	Symposium Molecules to Systems. Presidency University, Kolkata,		Poster
22	Dr. Shampa Sarkar Biswas	Do Angiotensin II blockers have a dominating role in the extracellular matrix degradation and/or remodeling in the process of decidualization in rat uterus	February 14-17, 2015	25th meeting of the Indian society for the study of reproduction and fertility and International Conference on Reproductive Health, organized by NIRRH, Mumbai and ICMR at Mumbai.		Poster
23	Dr. Aparna Mukhopadhyay	Efficient Endocytic sorting by Rab1a.	January 29-31, 2015,	National Symposium on "Molecules to Systems", January 29-31, 2015, Presidency University, Kolkata.	National	Poster

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
24	Dr. Shampa Sarkar Biswas	Search for a microbicidal-spermicide with contraceptive potential: an alternative to nonoxynol-9	18-20 December, 2015,	FIPSPHYSI-CON-2015, on Translational Physiology for Health Promotion at the University Colleges of Science and Technology (Rajabazar Science College), Calcutta University, Kolkata, India.	National	Invited Speaker
25	Dr. Santanu Chakraborty		December 10-12, 2014.	XXXVIII All India Cell Biology Conference & International Symposium on Cellular Response to Drugs, held in CDRI, lucknow.	National	Invited speaker
26	Prof. Adhar Ch. Manna	Developing anti-microbial therapeutics based on alternative approaches	Feb.21, 2014	National Symposium on Modern Trends in Biological Sciences organized by The Physiological Institute, Presidency University, Kolkata, India	National	In house speaker
27	Prof. Adhar Ch. Manna	Staphylococcal specific Sar-family transcriptional regulators as potential antivirulence targets in <i>Staphylococcus aureus</i>	Feb 03-07, 2014.	101st Indian Science Congress, Jammu, India		
28	Dr. Shampa Sarkar Biswas	Prenatal differentiation and migration of primordial germ cells: how we move towards our future	December 19-21, 2014	XXVI the annual national conference of the physiological society of India. Organized by Department of Physiology and Dept of Zoology, Berhampur Girls College, Berhampur, Murshidabad	National	Invited Speaker

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29	Dr. Mausumi Sikad	Effect of tea-extract on antibiotic resistant bacterial pathogens isolated from different Kolkata hospitals.	14th -16th November, 2014	35th Annual Conference of IABMS, held at HPAU, Palampur	National	Invited speaker
30	Dr. Aparna Mukhopadhyay	Rab1a regulates early sorting of endocytic vesicles.	November 21st-23rd, 2014	International Symposium on Genetic Analysis Translational and Developmental, University of Burdwan, India.	International	Speaker
31	Dr. Prabir Kr. Mukhopadhyay	Dietary supplementation as an approach towards the amelioration of arsenic-mediated toxicity in the female reproductive system- A review	21-22nd January, 2014	UGC Sponsored National Level Seminar held at Mohishadol Girls' College, Purba Medinipur		Resource Person
32	Prof. Devashish Sen		14th -16th November, 2014	35th Annual Conference of IABMS, held at HPAU, Palampur	National	Lead Lecture
33	Prof. Devashish Sen	A comparative study of variation in circadian rhythm of different physiological parameters between men working under artificial light and natural light.	1st-5th December, 2014	12th ISE HWWE (Humanizing work and work environment)	International	theme lecture
34	Dr. Mausumi Sikdar	Psidium guajava leaf extracts with Activity against Oral Bacteria: Potential Application in the Prevention and Treatment of Oral Disease	14th -16th December, 2013	34th Annual Conference of IABMS, held at Madras University, Chennai		
35	Dr. Prabir Kr. Mukhopadhyay	Arsenic effect on reproductive system of adult male rats- A corrective approach by combined application of vitamin E and C	27-29th December, 2013	34th Annual Conference of Indian Association of Biomedical Scientists held at the University of Madras, Chennai on	National	Plenary Lecture

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
36	Dr. Prabir Kr. Mukhopadhyay	Protective role of α -tocopherol and ascorbic acid on arsenic toxicity– Studies on adult male Wister rats	4-6th December 2013	International Conference on Ergonomics and Human Factors held at the Dept. of Human Physiology with Community Health, Vidyasagar University, Midnapore	National	Invited speaker
37	Prof. Devashish Sen	2D:4D ratio in prediction of aggression amongst children	27-29th December, 2013	34th Annual Conference of Indian Association of Biomedical Scientists held at the University of Madras, Chennai on	National	Plenary Lecture
38	Prof. Devashish Sen	An attempt to develop noise map of Kolkata in horizontal and vertical plane.	4-6th December 2013	International Conference on Ergonomics and Human Factors held at the Dept. of Human Physiology with Community Health, Vidyasagar University, Midnapore	International	Lead Lecture
39	Prof. Adhar Ch. Manna	Regulation of Oxidative Stress-Responsive Genes by Sar-family regulators in <i>S. aureus</i>	Oct 17-19,2012.	XXXVI All India Cell Biology Conference & International Symposium on “ Stress Adaptive Response and Genome Integrity” at BARC, Mumbai, India		
40	Dr. Mausumi Sikar	In search of an alternative to conventional antibiotics against <i>Staphylococcus aureus</i> : A study with <i>Catharanthus roseus</i> (Periwinkle/ Nayantara) and <i>Nyctanthes arbortristis</i> (Siuli) leaf extracts	1st to 3rd November, 2012	33rd Annual Conference of Indian Association of Biomedical Scientists and International Symposium, held at NITTE University, Mangalore	National	Invited Speaker

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41	Dr. Aparna Mukhopadhyay	Rab1a is a master regulator of early endocytic sorting events in hepatocytes	, Nov 9 - 13, 2012	Annual Meeting of American Association for the Study of Liver Diseases, Nov 9 - 13, 2012; Boston, MA, USA	International	Speaker
42	Dr. Prabir Kr. Mukhopadhyay	Protection of Hepatocellular toxicity in arsenic trioxide induced adult male Wistar rats by strategically modulated protein diet	Nov, 2012.	33rd Annual Conference (International Symposium on Recent Trends and Advances in Biomedical Sciences-an integrated approach) of IABMS held at Nitte University, Mangalore		
43	Dr. Prabir Kr. Mukhopadhyay	Studies on arsenic intoxicated oxidative stress induced-DNA damage in testis and accessory organ functions in rats	2012	International Conference on Frontiers in Biological Research (ICFBR-2012) in Dept. of Human Physiology with Community Health at Vidyasagar University, Midnapore	International	Invited speaker
44	Dr. Shampa Sarkar Biswas	The size of ovarian follicular reserve inversely modulates the rate of follicular atresia	14th July to 19th July, 2013	Germinal Stem cell Conference conducted by Gordon Research Conferences at Chinese University of Hong Kong, Hong Kong	International	Poster Presentation
45	Abhijit Dey	Exploring the Modern Approach in Biological Science: From Genome to Organism	24-27th November, 2015	3 day International conference organized by the Department of Zoology, Sidho-Kanho-Birsha University, Purulia	International	Invited speaker
46	Abhijit Dey	Exploring the Modern Approach in Biological Science: From Genome to Organism	24-27th November, 2015	3 day International conference organized by the Department of Zoology, Sidho-Kanho-Birsha University, Purulia	International	Chair

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47	Abhijit Dey	Emerging Trends in Biotechnology (ICETB 2014) and XI Convention of The Biotech Research Society	Nov. 6-9, 2014 on of The Biotech Research Society	Jawaharlal Nehru University (JNU), New Delhi, India	International	Poster
48	Dr. Malay Das	Gene death, birth and evolution of novel stress gene function in wild and crop species of Brassicaceae.	15/02/2014	International Seminar entitled “The progress and prospect of 21st century research in advance Life Sciences” organized by Department of Botany, Vivekananda Mahavidyalaya, Haripal, Hooghly, West Bengal	International	Invited speaker
49	Dr. Malay Das	Parasitic plant genome project: A comparative evolutionary approach to study the genetic changes associated with parasitism.	11/03/2014	35th Annual Meeting of PTCA (I) and National Symposium on Advances in Plant Molecular Biology and Biotechnology. IISER, Pune	National	Invited speaker
50	Dr. Malay Das	Parasitic plant genome project and beyond: listening to molecular cross-talks between host and it's enemy.	20/12/2014	One day Symposium on Recent Advances in Plant Biology organized by Plant physiology forum, Indiaat Bose Institute, Kolkata	National	Invited speaker
51	Dr. Malay Das	Next generation plant biology and beyond: examples taken from Parasite plant genome sequencing project	14/10/2015	DST sponsored National Seminar on New Horizons in Biotechnology	National	Invited speaker
52	Ganesan M,	Plenary session on “Food security and Genetically modified crops”,	25th July 2013	West Bengal State Council of Science and Technology and Department of Biophysics, Molecular Biology and Bioinformatics, Calcutta University	National	Participation

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
53	Dr. Abhik Saha	4th Annual conference of Molecular Pathology Association of India (MPAI)	14th – 15th Feb, 2015	Tata Medical Centre	National	Session Chair
54	Dr. Abhik Saha	Workshop on fundamentals of mass spectrometry-based proteomics for beginners	7th – 9th Oct, 2015	Institute of Bioinformatics, Bangalore	National	Trainee
55	Dr. Abhik Saha	Tumor Virus: A tool to understand Cancer Biology	14th Nov, 2015	Tata Medical Centre, Kolkata	National	Invited Speaker
56	Dr. Madhubrata Chaudhury	PTCA Meeting	2014	IISER , Pune		
57	Dr. Sutapa Saha	HUPO (Human Proteome	September 9-13, 2012	HUPO, USA Organization) 11th Annual World Congress	International	Invited for poster presentation
58	Dr. Sutapa Saha	IUBMB 10th International Symposium on Biochemical Roles of Eukaryotic Cell Surface Macromolecules	January 20-24, 2014	IUBMB, India	International	Invited for poster presentation'
59	Dr. Atreyi Chatterjee	National Symposium on Molecules to Systems	January 29-31, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Organiser (Poster & Advertisement section) & poster
60	Dr. Sutapa Saha	National Symposium on Molecules to Systems	January 29-31, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Resource Person (Treasurer) & poster
61	Dr. Atreyi Chatterjee	National Symposium Environmental Impact on Biodiversity and Plant Development	19th - 20th February, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Registered member
62	Dr. Sugopa Sengupta	National Symposium on Molecules to Systems	January 29-31, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Poster
63	Dr. Sugopa Sengupta	National Symposium Environmental Impact on Biodiversity and Plant Development	19th - 20th February, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Registered participant

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
64	Dr. Sutapa Saha	National Symposium Environmental Impact on Biodiversity and Plant Development	19th - 20th February, 2015	DBS, Presidency University, Funded by DBT-BUILDER	National	Registered participant
65	Dr. Sugopa Sengupta	MCB75: from Molecules to Organisms	11th-14th December, 2015	Department of Microbiology & Cell Biology, IISc, Bangalore	International	Registered participant
66	Dr. Pralay Majumder	Physicon 2014	2014	Berhampore Girls College, Berhampore	National	Invited speaker
67	Dr. Pralay Majumder	Indian Society for Developmental Biology Meeting	2015	CCMB, Hyderabad	National	Invited speaker
68	Dr. Pralay Majumder	Exploring the modern approach in biological science: From genome to organism	2015	SKBU, Purulia	International	Invited speaker
69	Amlan Ghosh	From GWAS Hits to Targeted	Re-sequencing	3RD to 8TH March, 2014	NIBMG, Kalyani, West Bengal	National
70	Amlan Ghosh	Molecule to system	29th to 31st January, 2015	Presidency university, Kolkata	National	Participant (Presented Poster)
71	Amlan Ghosh	Environmental impact on biodiversity and plant development	19th to 20th February, 2015	Presidency university, Kolkata	National	Participant (Presented Poster)
72	Amlan Ghosh	Contemporary Laboratory and Field Experiments in Zoology	22nd Nov to 1st Dec 2015	Dept. of Zoology, APC Govt. College, Siliguri, Darjeeling.	National	Invited Speaker
73	Kousik Pramanick	Environmental Impact on biodiversity and Plant Development	2015	Presidency University, Kolkata	National	Participant
74	Kousik Pramanick	Molecules to Systems	2015	Presidency University, Kolkata	National	Participant
75	Kousik Pramanick	Applied Zoology in Sustainable Development: an update	2015	North Bengal University	National	Participant
76	Dr. Piyali Mukherjee	Gordon Research Conference on "Oxidative stress and Disease"	14-19 April, 2013	Gordon Research Conference	International	Oral Presentation

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
77	Dr. Piyali Mukherjee	Young Investigators Meeting,	9-12 Feb,2014	India Bioscience	National	Poster Presentation
78	Dr. Piyali Mukherjee	Gordon Research Conference on ‘Neurobiology of brain Disorders’	July 27-August 1, 2014	Gordon Research Conference	International	Poster Presentation
79	Dr. Piyali Mukherjee	International conference on “Development, degeneration and regeneration of neurons: Neurochemistry to Clinical neurology”	January 7-10, 2015	IPGMER	International	Poster Presentation
80	Dr. Piyali Mukherjee	National Symposium on ‘Molecules to Systems’	29-31st January, 2015	DBS, Presidency University	National	Poster Presentation
81	Dr. Piyali Mukherjee	Environmental Impact on Biodiversity and Plant Development	19-20th February, 2015	DBS, Presidency University	National	Attendee
82	Dr. Piyali Mukherjee	4th Annual MPAI conference	14th-15th February, 2015	Tata Medical Centre	National	Attended
83	Dr. Devrani Mitra	13th conference of the Asian Crystallography Association	5-8th December, 2015	Asian Crystallography Association	International	Delegate
84	Dr. Devrani Mitra	Environmental Impact on Biodiversity and Plant Development	19-20th February, 2015	DBS, Presidency University	National	Attendee
85	Dr. Devrani Mitra	Molecules to Systems	29-31st January, 2015	DBS, Presidency University	National	Presented poster
86	Dr. Devrani Mitra	New Advances in X-ray diffraction and Cryo-electron microscopy	15-17th December, 2014	Indian National Science Academy (INSA), New Delhi and Regional Centre for Biotechnology (RCB)	International	Presented poster
87	Dr. Sanghamitra Dey	Young Investigators Meeting, 2014			Hyderabad, India	Poster Presentation
88	Dr. Sanghamitra Dey	13th conference of the Asian Crystallography Association	5-8th December, 2015	Asian Crystallography Association	International	Delegate

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89	Dr. Sanghamitra Dey	Environmental Impact on Biodiversity and Plant Development	19-20th February, 2015	DBS, Presidency University	National	Attendee
90	Dr. Sanghamitra Dey	Molecules to Systems	29-31st January, 2015	DBS, Presidency University	National	Presented poster
91	Dr. Sanghamitra Dey	New Advances in X-ray diffraction and Cryo-electron microscopy	15-17th December, 2014	Indian National Science Academy (INSA), New Delhi and Regional Centre for Biotechnology (RCB)		
	International	Presented poster				
92	Dr. Sanghamitra Dey	4th Annual MPAI conference	14th-15th Feb, 2015	Tata Medical Centre	National	Attended
93	Dr. Piyali Mukherjee	4th Annual MPAI conference	14th-15th Feb, 2015	Tata Medical Centre	National	Attended
94	Dr. Kalyan Giri	Environmental Impact on Biodiversity and Plant Development	19-20th February, 2015	DBS, Presidency University	National	Attendee
95	Dr. Kalyan Giri	Molecules to Systems	29-31st Jan, 2015	DBS, Presidency University	National	Presented poster
96	Dr. Kalyan Giri	Golden Jubilee Meeting of Indian Biophysical Society	14-17 Feb, 2015	Indian Biophysical Society	National	Presented poster
97	Dr. Sanghamitra Dey	Modern Trends in Biological Sciences	21 Feb 2014	Dept of biological Sciences	National	Presented Poster
98	Dr. Piyali Mukherjee	Modern Trends in Biological Sciences	21 Feb 2014	Dept of biological Sciences	National	Presented Poster
99	Dr. Devrani Mitra	Modern Trends in Biological Sciences	21 Feb 2014	Dept of biological Sciences	National	Presented Poster
100	Dr. Piyali Mukherjee	National Symposium on Modern trends in Microbiology	October, 2013	St Xavier's College, Kolkata	National	Invited talk
101	Dr Madhubrata Choudhury	DBT –BUILDER Sponsored National Symposium - Environmental Impact on Biodiversity and Plant Development	19 – 20 th February 2015	Presidency University	National	Poster presentation
102	Dr Madhubrata Choudhury	DBT-BUILDER National Symposium - Molecules to System	29th – 31 st January 2015	Presidency University	National	Attended

List of Publications :

2012

1. Biswas N., Mahato SK., Chowdhury AA., Chaudhuri J., Manna A., Vinayagam J., Chatterjee S., Jaisankar P., Chaudhuri U., Bandyopadhyay S. 2012, ICB3E induces iNOS expression by ROS-dependent JNK and Erk activation for apoptosis of leukemic cells. *Apoptosis.*, 17(6): 612-26 (citation 11; Impact Factor 3.68)
2. Chakraborty JB., Mahato SK., Joshi K., Shinde V., Rakshit S., Biswas N., Choudhury IM., Mandal L., Ganguly D., Chowdhury AA., Chaudhuri J., Paul K., Pal BC., Vinayagam J., Pal BC., Manna A., Jaisankar P., Chaudhuri U., Konar A., Roy S., Bandyopadhyay S.. 2012, Hydroxychavicol, a Piper betle leaf component, induces apoptosis of CML cells by mitochondrial ROS-dependent JNK and eNOS activation and overrides imatinib resistance. *Cancer Sci.*, 103(1):88-99 (citation 21; Impact Factor 3.52)
3. Chakraborty S and Yutzey KE. Tbx20 regulation of cardiac cell proliferation and lineage specialization during embryonic and fetal development in vivo. *Developmental Biology.* 2012 Mar 1; 363(1) 234-246.
4. Dey, A. and De, J.N., 2012. Anti snake venom botanicals used by the ethnic groups of Purulia District, West Bengal, India. *Journal of Herbs, Spices and Medicinal Plants*, 18(2): 152-165 DOI: 10.1080/10496475.2011.652298
5. Dey, A. and De, J.N., 2012. Ethnomedicinal plants used by the tribals of Purulia district, West Bengal, India against gastrointestinal disorders. *Journal of Ethnopharmacology*, 143(1): 68-80. Elsevier, Impact Factor: 3.014 (5-Year Impact Factor: 3.728). DOI: 10.1016/j.jep.2012.05.064.
6. Dey, A. and De, J.N., 2012. Phyto pharmacology of antiophidian botanicals: A review. *International Journal of Pharmacology.* 8(2): 62-79.
7. Dey, A. and De, J.N., 2012. Traditional use of medicinal plants as febrifuge by the tribals of Purulia district, West Bengal, India. *Asian Pacific Journal of Tropical Disease*, 2 (Suppl. 2): S800-S803. DOI: 10.1016/S2222-1808(12)60268-0
8. George, S.J., Barney, B.M., Mitra, D., Igarashi, R.Y., Guo, Y., Dean, D.R., Cramer, S.P., and Seefeldt, L, 2012, EXAFS and NRVS reveal a conformational distortion of the FeMo-cofactor in the MoFe Nitrogenase propargyl alcohol complex. *Journal of Inorganic Biochemistry*, 112, 85-92.
9. Ghosh A, Ghosh S, Maiti GP, Mukherjee S, Mukherjee N, Chakraborty J, Roy A, Roychoudhury S, Panda CK. 2012. Association of FANCC and PTCH1 with the development of early dysplastic lesions of the head and neck. *Ann Surg Oncol.* V.19 (Suppl 3, p. 528-38) (Citation: 19; Impact Factor: 3.94).
10. Lu, J., Verma, SC., Cai, Q., Saha, A., Dzeng, RK., and Robertson, ES., 2012, The RBP-J κ binding sites within the RTA promoter regulate KSHV latent infection and cell proliferation. *PLoS Pathog.*, v. 8, p. e1002479. (Citation: 23; Impact Factor of the Journal: 8.057)
11. Maiti GP, Ghosh A, Chatterjee R, Roy A, Sharp TV, Roychoudhury S, Panda CK. 2012. Reduced expression of limd1 in ulcerative oral epithelium associated with tobacco and areca nut. *Asian Pac J Cancer Prev.* V. 13(9), p.4341-6.) (Citation: 5; Impact Factor: 2.5).
12. Majumder, P., Aranjuez, G., Amick, J., and McDonald, J.A., 2012, Par-1 controls Myosin activity and dynamics through Myosin Phosphatase to regulate border cell migration. *Curr Biol* 22 (5) 363-372 (Citation: 13; Impact Factor of the Journal: 10.9)

13. Mitra, D., Yang, X., Moffat, K., 2012, Crystal structures of Aureochrome1 LOV suggest new design strategies for Optogenetics, *Structure*, 20, 698-706.
14. Mukherjee, S., De, A., Ghosh, P., Dey, A., 2012. In vitro antibacterial activity of various tissue types of *Dumortiera hirsuta* (Sw) Nees from different altitudes of eastern Himalaya. *Asian Pacific Journal of Tropical Disease*. v. 2 (1), p. S285-S290. (Citation: 3)
15. Mukherjee, S., Dey, A., and Das, T., 2012 In-vitro antibacterial activity of n-hexane fraction of methanolic extract of *Alstonia scholaris* L. R.Br. stem bark against some multi drug resistant human pathogenic bacteria. *European Journal of Medicinal Plants*, v. 2(1), p. 1-10. Citation: 20
16. Musgrave, W. B., Yi, H., Kline, D., Cameron, J. C., Wignes, J., Dey, S., Pakrasi, H. B., Jez, J. M. 2012, Probing the Origins of glutathione biosynthesis throughout biochemical analysis of glutamate-cysteine ligase and glutathione synthetase from a model photosynthetic prokaryote. *Biochemical Journal*, v. 450(1): 63-72. (Impact factor – 4.9)
17. Saha, A., Lu, J., Morizur, L., Upadhyay, SK., Aj, MP., and Robertson, ES., 2012, E2F1 mediated apoptosis induced by the DNA damage response is blocked by EBV nuclear antigen 3C in lymphoblastoid cells. *PLoS Pathog.*, v. 8, p. e1002573. (Citation: 20; Impact Factor of the Journal: 8.057)
18. Saha, S., Halder, S., Bhattacharya, D., Banerjee, D., and Chakrabarti, A., 2012, Fractional Precipitation of Plasma Proteome by Ammonium Sulphate: Case Studies in Leukemia and Thalassemia. *Journal of Proteomics & Bioinformatics*, v. 5, p. 163-171. (Citation: 1; Impact Factor of the Journal : 2.55)
19. Sengupta A, Chakraborty S, Paik J, Yutzey KE and Evans-Anderson HJ. FoxO1 is required in endothelial but not myocardial cell lineages during cardiovascular development. *Developmental Dynamics*. 2012 Apr; 241(4): 803-813.
20. Tanaka, A., Tanizawa, H., Sriswasdi, S., Iwasaki, O., Chatterjee, A.G., Speicher, D.W., Levin, H.L., Noguchi, E., and Noma, K., 2012, *Molecular Cell*, v. 48, p. 532-546. (Citations: 37; Impact factor of the Journal: 15.28)
21. van Deursen, F., Sengupta, S., De Piccoli, G., Sanchez-Diaz, A., and Labib, K., 2012 Mcm10 associates with the loaded DNA helicase at replication origin and defines a novel step in its activation, *EMBO J.*, v.31, p. 2195-2206 (Citation: 46, Impact Factor of the Journal: 9.8)
22. Westwood, James H., Claude W. dePamphilis, Malay Das, Mónica Fernández-Aparicio, Loren A. Honaas, Michael P. Timko, Eric K. Wafula, Norman J. Wickett, and John I. Yoder. “The Parasitic Plant Genome Project: new tools for understanding the biology of *Orobanche* and *Striga*.” *Weed Science* 60, no. 2 (2012): 295-306.

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11. ISSN: 0975-833X.
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 18. Modak, BK, Gorai, P., Dhan, R., Mukherjee, A., Dey, A.*, 2015. Tradition in treating taboo: Folkloric medicinal wisdom of the aboriginals of Purulia district, West Bengal, India against sexual, gynaecological and related disorders. *Journal of Ethnopharmacology*, 169:370-86 Impact Factor: 3.014 (5-Year Impact Factor: 3.728).
 19. Mukherjee P, Winkler CW, Taylor KG, Woods TA, Nair V, Khan BA, Peterson KE. SARM1, Not MyD88, Mediates TLR7/TLR9-Induced Apoptosis in Neurons. *J. Immunol.* v 196, p 4913-21. Citation: None Impact Factor: 4.92
 20. Saha, A., Jha, HC., Upadhyay, SK., and Robertson, ES., 2015, Epigenetic silencing of tumor suppressor genes during in vitro Epstein-Barr virus infection. *Proc Natl Acad Sci U S A.*, v. 112, p. E5199-207. (Citation: 00; Impact Factor of the Journal: 9.674)

Book Chapters:

1. Dey, A. and De, J.N., 2015. Possible anti-Parkinson's disease therapeutics from nature-A review. In: *Studies in Natural Product Chemistry*. Vol. 44. Ed.: Atta-ur-Rahman. Elsevier Science, Amsterdam, The Netherlands. Pp 447-520.
2. Dey, A., Gupta, B., Gupta, K., 2014. Role of polyamines in plant-pathogen interactions. In: *Amino Acids and Their Derivatives: Significance for Plant Stress Adaptations*. Ed. by Naser A. Anjum and Sarvajeet S. Gill. CABI, UK. Pp: 222-244. ISBN: 9781780642734. DOI: 10.1079/9781780642734.0222.
3. Ghosh A, Single nucleotide polymorphism as molecular marker; a bioinformatic approach. (*Contemporary Laboratory and Field Experiments in Zoology*, ISBN: 978-8211-128-8)
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5. Nandy, S., Dey A., De A., Bhattacharyya R., Ray P., Mukherjee, S. 2015. Enhanced Bioactivity Exhibited by In vitro Grown *Hemidesmus indicus* (L.) R. Br. Extracts in Terms of Antioxidation and Anti Human-Pathogenic Bacterial Activity. *Medicinal Plants: Phytochemistry, Pharmacology and Therapeutics* Vol. 4. Editor: Dr. Vijay Gupta. Daya Publisher, New Delhi. (In Press)
6. Rabindranath Bhattacharyya and Sandip Das. (2015) "Exopolysaccharide Production By A Rhizobium Sp. From Root Nodules of *Phaseolus Mungo* (L.) In Heavy Metal Stress Condition, in *Indian Biologist*, ISSN:0302-7554,47(1), 53-59.
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9. Saha, Sunayana, Nayak Sridhara, Bhattacharyya Indrani, Saha Suman, Mandal Amit K., Chakraborty Subhanil, Bhattacharyya Rabindranath et al. (2014): Understanding the patterns of antibiotic susceptibility of bacteria causing urinary tract infection in West Bengal, India., *Frontiers in Microbiology* 5. Citation: 04.IF- 4.0(2015).
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12. Sunayana Saha, Bony Deb and Rabindranath Bhattacharyya, (2015) "Indian medicinal plant extracts and its green synthesized metal nanoparticles: a new genre for combating human pathogens", in *The Battle Against Microbial Pathogens: Basic Science, Technological Advances and Educational Programs*, (Editor: A. Méndez-Vilas), ISBN (13): 978-84-942134-6-5, Publisher: Formatex Research Center, Spain, Vol. 1, 164-173.
13. Sunayana Saha, Souryadeep Mukherjee, Abhijit Dey and Rabindranath Bhattacharyya, (2015), "A Comparative Study of Five Medicinally Important Plant Extracts Against Two Multi Drug Resistant Human Pathogenic Bacteria." In *Utilisation and Management of Medicinal Plants- Vol. 3.*, M/S Daya Publication House, New Delhi. (In Press). ISBN 13 9789351247050.

Annexures 5

List of Conference Publications Last Four Years

2012

1. Banerjee, S., Lu, J., Saha, A., Cai, Q., Jha, HC., Dzeng, RK., and Robertson, ES., 2012, EBNA3C stabilizes IRF4 to promote B cell transformation by downregulating IRF8, in 'International Congress on Oncogenic Herpesviruses and Associated Diseases' held at Philadelphia, Pennsylvania, USA on August 1-4, 2012, organized by Abramson Cancer Center at Penn Medicine, Perelman School of Medicine at the University of Pennsylvania, Penn Dental Medicine and the Wistar Institute. (International) (Poster presentation)
2. Jha, HC., Upadhyay, SK., Saha, A., Cai, Q., Banerjee, S., Lu, J., Mahadesh, PAJ., and Robertson, ES., 2012, EBNA3C mediated stabilization of aurora kinase B contributes to oncogenesis, in 'International Congress on Oncogenic Herpesviruses and Associated Diseases' held at Philadelphia, Pennsylvania, USA on August 1-4,

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2012, organized by Abarmsom Cancer Center at Penn Medicine, Perelman School of Medicine at the University of Pennsylvania, Penn Dental Medicine and the Wistar Institute. (International) (Poster presentation)

3. Lu, J., Verma, SC., Cai, Q., Saha, A., Dzung, RK., and Robertson, ES., 2012, The role of RBP-J κ and epigenetic modifications in KSHV infection of human primary cells, in ‘International Congress on Oncogenic Herpesviruses and Associated Diseases’ held at Philadelphia, Pennsylvania, USA on August 1-4, 2012, organized by Abarmsom Cancer Center at Penn Medicine, Perelman School of Medicine at the University of Pennsylvania, Penn Dental Medicine and the Wistar Institute. (International) (Poster presentation)
4. Saha, S., Banerjee, S., Banerjee, D., Chakrabarti, A., 2012, De-regulations of Malignant B-lymphoblast Proteome in B-cell Acute Lymphoblastic Leukemia: Insights to Prognostic Stratification in HUPO (Human Proteome Organization) 11th Annual World Congress, Hynes Convention Centre, Boston, Massachusetts, USA, September 9-13, abs v. 1, p. 211. (International) (Invited for Paper Presentation)

2013

1. Mandal, S., Baragi, L. V., Anil, A. C. , 2013, Synergistic impact of ocean acidification and elevated temperature on byssogenesis of tropical fouling bivalve *Branchiodontes striatulus* (Henley, 1843), International Workshop on Ocean Acidification: Consequences for Marine Ecosystems, Indian Institute of Science Education and Research-Kolkata (IISER-K), India, 20-21 September, page no.: 39-40. (International) (speaker)

2014

1. Saha, A., 2014, Targeting Apoptosis-Autophagy Network in Virus Associated Human Cancers – A Therapeutic Approach, in a One-day National Symposium on ‘Modern Trends in Biological Sciences’ held at Presidency University, Kolkata on 21st February, 2014, organized by “The Physiological Institute” (an old organization established in 1951 by Prof. Sachidananda Banerjee in the Department of Physiology, Presidency College). (National) (Poster presentation)
2. Saha, A., 2014, Targeting Apoptosis-Autophagy Network in Virus Associated Human Cancers – A Therapeutic Approach, in ‘Young Investigator Meeting’ held at Ramoji Film City, Hyderabad on 8-12th February, 2014, organized by IndiaBioscience.org and NCBS, Bangalore, sponsored by Wellcome Trust DBT Alliance and EMBO. (National) (Poster presentation)

2015

1. Basu J, Ghosh A. Analysis of oral pathological conditions in Type-2 diabetes. Molecule to system, Presidency University, Kolkata, 29th to 31st January, 2015, PU-13, p.-75)
2. Bhattacharyya, S., Bose, P., Chakraborty, A., and Saha, A., 2015, Epstein –Barr Virus Nuclear Antigen 3C Targeted UPR-Autophagy Network: Transformation of B-Cell & Lymphomagenesis, in one day international seminar themed “Current Thoughts in Cell Sciences” being organized by Immunology & Regenerative Research Unit, Department of Zoology, University of Calcutta, in the university premises on 8th November 2015 at Centre for Research in Nanoscience and Nanotechnology, University of Calcutta, Salt Lake City, Kolkata. (National) (Poster presentation)
3. Chayan Bhattacharjee, Aparna Mukhopadhyay and Mukhopadhyay P K. Protection of arsenic induced reproductive toxicity by supplementation with isocaloric high protein diet: A study on adult male rats. Proceedings International Ergonomics Conference, December 3-5, 2014.

4. Development: An Update. North Bengal University, West Bengal, India, 30th January to 2nd February, page no.: 27. (National) (speaker)
5. Esnault, C., Hung, S., Choudhury, P., and Chatterjee, A. G., 2015 Developing a novel mammalian piggybac transposon as a mutagenesis tool in *S. pombe*. in National Symposium on Molecules to Systems, Presidency University, Kolkata, January 29-31, abs v. 1, p. 34. (National) (Paper presentation)
6. Ghosh, M. and Mandal, S., 2015, Meiobenthic biodiversity from soft bottom estuarine habitat of Indian Sundarbans: A pilot study. Paper presented at National Conference on Applied Zoology in Sustainable
7. Maity, S., Mukherjee, B., Ghosh, S., Saha, S., 2015, Exploring Common Molecular Links between Leukemogenesis, Trans-Differentiation, & Tumor Reversion in Hematopoietic Cells in National Symposium on Molecules to Systems, Presidency University, Kolkata, January 29-31, abs v. 1, p. 47. (National) (Resource person plus Paper presentation)
8. Maity, S., Seal, R., Chakrabarti, A., Saha, S., 2014, Exploring the possible role of cell surface and cytoskeletal proteins in the atypical phenomenon of tumor reversion in IUBMB 10th International Symposium on Biochemical Roles of Eukaryotic Cell Surface Macromolecules, Fortune Park, Panchawati, Kolkata, January 20-24, abs v. 1, p. 128 . (International) (Invited for Paper Presentation)
9. Mandal, S., and Nath, T., 2015, Diversity and community structure of sand dwelling macrobenthos of Siridao Sand Flat, Goa, India. Paper presented at National Conference on Applied Zoology in Sustainable Development: An Update. North Bengal University, West Bengal, India, 30th January to 2nd February, page no.: 28. (National) (speaker)
10. Saha, A., 2015, Understanding the Molecular Crosstalk between Unfolded Protein Response-Autophagy network and EBV Pathogenesis in Developing B-cell Lymphomas, in Wellcome Trust/DBT India Alliance Fellows Meeting on 6th – 7th Nov, 2015 at Novotel Airport, Hyderabad, India organized by Wellcome Trust/DBT India Alliance. (National) (Poster presentation).
11. Sardar SK, Bagchi S, De A, Palchoudhury S, Pal D, Panda CK, and Ghosh A. Arsenic and urinary bladder cancer in West Bengal: Clinical and prognostic evaluation. Environmental impact on biodiversity and plant development, , Presidency University, Kolkata, 22nd November to 1st December, 2015, p.-32).
12. Shaz, H., Rahman,W., Nagaraja, V., Labib, K., and Sengupta, S., 2015, Functional analysis of the key players involved in genome maintenance; in National Symposium on “Molecules to Systems” , Presidency University, Kolkata, January 29-31, abs v. 1, p. 46. (Paper presentation)

Synopsis of Publications

Publications		2012	2013	2014	2015	Total
Paper (peer-reviewed)	national					
	International	22	33	18	20	93
Books & Monographs	national					
	International					
Articles in magazine/ Newspaper		0	0	0	0	0

Annexures 6

Summer Projects conducted for students from other institutes and for own students and summer projects arranged for own students in other institutes (last four years)-

Students from other Institutes/ Universities:

1. **Rumela Bose** (St. Xaviers College) May-June 2015 did a summer project with **Dr. Shampa Sarkar Biswas**.
2. **Miss Suchismita Dhara** (Vidyasagar University) Feb-May 2014 did a summer project with **Dr. Rabindranath Bhattacharyya**.
3. **Miss. Monami Karmakar** (Vidyasagar University) Feb-May 2015 did a summer project with **Dr. Rabindranath Bhattacharyya**.
4. **Miss. Peeali Mukherjee** (Vidyasagar University) Feb-May 2015 did a summer project with **Dr. Rabindranath Bhattacharyya**.
5. **Kusumika Roy**, The Heritage Institute of Technology, Kolkata, 2014.
6. **Reya Ganguly**, Visva-Bharati University, Santiniketan, West Bengal. 2013 and 2014.
7. **Abhijit Dey** supervised Gagandeep Kaur, Pondicherry University 2015
8. **Dr. Amlan Ghosh** mentored Shuvamita Dalal, Vidyasagar College, University of Calcutta in 2014 and Souradeep Basu, Vidyasagar College, University of Calcutta, in 2015
9. **Souryadeep Mukherjee** mentored Sayani Kundu, Vidyasagar College, University of Calcutta in 2014, **Riya Mandal**, Vidyasagar College, University of Calcutta, 2014
10. **Dr. Piyali Mukherjee** mentored Sohini Bhattacharya, St. Xaviers University, 2014
11. **Dr. Malay Das** mentored **Monalisa Parui**, HIT, 2014, **Sonali Saha**, Barasat Govt. College, 2015; **Sayan Saha**, Pondicherry University, 2015; **Sneha Das**, HIT, 2015

Own students at other Universities:

1. Chayan Bhattacharya (M. Sc, Molecular Biology and Genetics), Chittaranjan National Cancer Institute, 2013.
2. Sudipa Maity (M. Sc, Molecular Biology and Genetics) ,Saha Institute of Nuclear Physics, 2014
3. Rishav Seal (M. Sc, Molecular Biology and Genetics) ,Saha Institute of Nuclear Physics, 2014
4. Chandrama Majumdar (M. Sc, Molecular Biology and Genetics), KPC Medical College & Hospital, Kolkata.
5. Soumyasree Sasmal and Amrita Dutta (M. Sc, Molecular Biology and Genetics), Department of Zoology , Ram Mohan College, Calcutta University, Kolkata.
6. Rubia Mondal -M.Sc Physiology (2014) did dissertation project at IICB
7. Bidhan Halder- M.Sc DBS (2015) did dissertation at IISER Kolkata
8. Antara Mukherjee- M.Sc. DBS (2015) did dissertation at Jadavpur University.
9. Sayak Mukhopadhyay-M.Sc. DBS (2015) did dissertation at Saha Institute of Nuclear Physics
10. Madhurima Ghosh-M.Sc. DBS (2015) did dissertation at Saha Institute of Nuclear

Annexure: 7

**Names of Students with outstanding achievements and placements for higher studies
(last four years)**

- Working as a Research Fellow at University of St. Andrews, UK-Aninda Sundar Dey, PG (Molecular Biology & Genetics) 2011-2013 Batch
- Selected for PhD at IIT-Roorkee-Sudipa Maity, PG (Molecular Biology & Genetics) 2012-2014 Batch
- Pursuing PhD at National Institute of Biomedical Genomics (NIBMG), Kolkata-Anwasha Sarkar, PG (Molecular Biology & Genetics) 2012-2014 Batch
- Selected for PhD at IIT Kharagpur- Aditya Jyoti Basak, PG DBS (Biochemistry & Biophysics) 2013-2015
- Pursuing PhD at Saha Institute of Nuclear Physics, Kolkata- Sayak Mukhopadhyay, PG DBS (Molecular Biology & Cell Biology) 2013-2015 batch
- Pursuing PhD at Indian Institute of Chemical Biology (IICB), Kolkata- Bhaskar Basu, PG DBS (Molecular Biology & Cell Biology) 2013-2015 batch
- Shinjini Chakraborty, Aritra Das and Shravasti Misra did summer training at the Institute of Tropical Medicine in 2012.
- Shinjini Chakraborty, B.Sc. student of Physiology was awarded by the Indian Academy of Sciences, Bangalore, India and went to Dr. Vasudevan Seshadri at the National Centre for Cell Sciences, Pune, India July, 2013-September, 2013.
- Aritra Das, B.Sc. student of Physiology worked under the supervision of Dr. Rajesh Gokhale at CSIR-IGIB, New Delhi for two months during the summer, 2013.
- Atreyi Biswas B.Sc. student of Physiology was awarded by the Indian Academy of Sciences, Bangalore, India and went to Dr. Vijaylakshmi Rabindranathan at IISc, Bangalore in 2013.
- Aritra Das, B.Sc. student of Physiology worked under the supervision of Dr. Rajesh Gokhale at CSIR-IGIB, New Delhi for two months during the summer, 2014.
- Debarpan Guhathakurta and Shinjini Chakraborty, B.Sc. students of Physiology interned at IICB in 2014.
- Debisukti Das B.Sc. student of Physiology was awarded IASc-INSA-NASI Summer Research Fellowship in 2014. Fellowship work to be performed under the supervision of Professor Vijayalakshmi Ravindranath of the Centre for Neuroscience, Indian Institute of Science (Bangalore).
- Priyanka Sarkar B.Sc. student of Physiology went to CDRI for summer training in 2015.
- Subhodeep Banerjee, M.Sc student of Physiology was selected and attended the summer training program of summer research program of CSIR-CCMB, Hyderabad, under the supervision of Dr. Utpal Bhadra in 2015.
- Bagisha Maitra M.Sc student of Physiology was Saha Institute of Nuclear Physics, 2015.
- Manisha Das, Eshita Saha M.Sc students of Physiology was NICED, 2015.

Evaluative Report of the Department: Chemistry

- 1. Name of the Department: Chemistry**
- 2. Year of establishment :** 2010 (first established in 1864 as a Department of the erstwhile Presidency College).
- 3. Is the Department part of a School/Faculty of the university? :** Yes, it is under the Faculty of Natural and Mathematical Sciences.
- 4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) :**
 - BSc (Hons) Chemistry
 - MSc (Chemistry)
 - PhD in Science (Chemistry)
- 5. Interdisciplinary programmes and departments involved:**
 - Department offers six GenEd courses of 24 credits for around 160 students per course to the students of other departments of the University (both Science and Humanities).
 - In undergraduate Biochemistry courses, teachers from Physiology Department are involved in teaching.
 - During the last syllabus revision (2014), important basic elements of Physics, Mathematics, Statistics and Biochemistry have been incorporated in the undergraduate and postgraduate syllabi.
 - Department offers courses at the postgraduate level on Biophysical Chemistry.
 - In the Ph.D. level, collaborative researches are going on with other departments including Physics and Geology, and with other institutes e.g., Bose Institute, IIT Kharagpur, North Bengal University, Jadavpur University, Indian Association for the Cultivation of Science, Kolkata.
- 6. Courses in collaboration with other universities, industries, foreign institutions, etc.: Student Summer Project, Ph.D. Course.**
 - A large number of students from other national and state level institutes carries out summer research projects in this department through IAS, INSPIRE, POCE. Students from this department regularly join other universities/institutes/industries to carry out summer research projects (non-credit course).
 - In the Ph.D. level, collaborative researches are going on with other institutes e.g., Bose Institute, IIT Kharagpur, North Bengal University, Jadavpur University, Indian Association for the Cultivation of Science, Kolkata, IISER-Bhopal.
- 7. Details of programmes discontinued, if any, with reasons:**
 - Undergraduate course in Biochemistry has been discontinued since this course is now being taught in the Department of Biosciences of the University. However, in the B.Sc. (Hons.) and M.Sc. courses, a major proportion of Biochemistry, Biophysical, Bioorganic and Bioinorganic Chemistry have been incorporated in the revised syllabi.
- 8. Examination System: Annual/Semester/Trimester/Choice Based Credit System:**
 - Semester with Choice Based Credit System (CBCS) at various levels (Undergraduate, Postgraduate).

9. Participation of the department in the courses offered by other departments

Not applicable at this moment.

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate

Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	05	02	02
Associate Professors	00	00	00
Asst. Professors	18	08 + 01 (on lien)	08
Others	NA	NA	NA

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 5 years
Bijan Das	Ph.D.	Professor	Physical Chemistry	26.5 years	Ph.D. – 04 (awarded)
Gandhi K. Kar	Ph.D.	Professor	Organic Chemistry	29 Years	Ph.D. – 02 (awarded) + 01 (to be awarded)
Adity Bose	Ph.D.	Assistant Professor	Inorganic Chemistry	8 Years	–
Anjoy Majhi	Ph.D.	Assistant Professor	Organic Chemistry	3 Years	–
Arnab Halder	Ph.D.	Assistant Professor	Physical Chemistry	11.5 Years	–
Biplab Biswas	Ph.D.	Assistant Professor	Inorganic Chemistry	2 Years	–
Dhruba Prosad Chatterjee	Ph.D.	Assistant Professor	Organic Chemistry	9 Years	–
Koena Ghosh	Ph.D.	Assistant Professor	Organic Chemistry	2 Years	–
Pulak K Ghosh	Ph.D.	Assistant Professor	Physical Chemistry	2 Years	–
Sasikumar Palani	Ph.D.	Assistant Professor	Inorganic Chemistry	3 Years	–

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors:

1. Prof. Sanjib Bagchi (UGC Emeritus Fellow)
2. Prof. Sanjib Ghosh (CSIR Emeritus Scientist)

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3. Prof. Uday C. Ghosh (Emeritus - Project/DST)
4. Prof. Mukul Biswas (Emeritus Scientist)

13. Percentage of classes taken by temporary faculty – programme-wise information

Programme	Percentage of classes taken by temporary faculty
UG	04
PG	14
Ph.D.	00

14. Programme-wise Student Teacher (Full time) Ratio:

- B.Sc. (Hons.) - 13:1;
- M.Sc. - PG - 7:1.

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

- Technical: 03 (filled); Administrative: 03 (filled)

16. Research thrust areas as recognized by major funding agencies

- Macromolecular and colloid chemistry.
- Synthetic organic chemistry.
- Spectroscopy of biomolecules.
- Ultrafast spectroscopic study of photophysical processes.
- Synthetic inorganic chemistry.
- Computational and theoretical studies.
- Bio-organic chemistry/ Biochemistry.
- Design of organometallic material having novel optoelectronic property.
- Advanced membrane materials.
- Development of novel protein kinase C modulators.
- Environmental chemistry.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. (full List in Annexure 1)

No. of Faculty Members	Funding Agency	Grants Received (Rs.)
10	UGC	5452700
06	CSIR	4545667
14	DST	25135044
01	West Bengal Public Health	750000

No. of Faculty Members	Funding Agency	Grants Received (Rs.)
11	Faculty Research & Professional Development Fund (FRPDF)	4449598
	Total	40333009

18. Inter-institutional collaborative projects and associated grants received

- a) National collaboration b) International collaboration

National Collaborations

- Prof. Bijan Das with Dr. Chanchal Das, Department of Chemistry, Sikkim Government College, Gangtok, Sikkim
- Prof. Bijan Das with Dr. Sajal Das, Department of Chemistry, North Bengal University, Darjeeling 734 013
- Prof. Bijan Das with Prof. Basudeb Basu, Department of Chemistry, North Bengal University, Darjeeling 734 013
- Prof. Bijan Das with Dr. Soumen Ghosh, Department of Chemistry, Jadavpur University, Kolkata 700 032
- Dr. Arnab Halder with Dr. Saptarshi Mukherjee, Department of Chemistry, IISER Bhopal.
- Dr. Arnab Halder with Dr. Pratik Sen, Department of Chemistry, IIT Kanpur.
- Dr. U.C. Ghosh with Dr. S. Chakrabarti, Department of Applied Geology & Environmental System Management, Presidency University.
- Prof. G. K. Kar with Prof. M. Chakrabarty of Bose Institute.

International Collaborations

- Prof. Bijan Das with Dr. Ranjit De, Department of Chemistry, Gwangju Institute of Technology, Republic of Korea.
- Prof. Bijan Das with Dr. Ajaya Bhattarai, M.M.A.M.C (Tribhuvan University), Biratnagar, Nepal
- Dr. Pulak K. Ghosh with Professor Franco Nori, Quantum Condensed Matter Research Group, Center for Emergent Matter Science, RIKEN, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan
- Dr. Pulak K. Ghosh with Professor Fabio Marchesoni, Department of Physics, Universita' di Camerino, Sezione di Perugia, Italy.
- Dr. Pulak K. Ghosh with Professor Peter Hanggi, Department of Physics, Augsburg University, Germany

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- DST-FIST: Rs. 2,23,00,000/- . (2015-20)

20. Research facility / centre with

- State recognition and national recognition: with the funding from DST-FIST, DST the department has developed laboratories equipped with Spectrofluorimeter, UV, FTIR, CD spectrometer, HPLC, Osmometer, Lyophilizer, AAS, NMR (to be installed soon). Over the years, these instruments are extensively used by other state and national level institutes.
- international recognition : No

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21. Special research laboratories sponsored by / created by industry or corporate bodies : No

22. Publications: (provide complete list in Annexure 2)

- Number of papers published in peer reviewed journals (national / international): 150

- Monographs

- Chapters in Books: 3

- Edited Books : 0

- Books with ISBN with details of publishers 0

- Number listed in International Database (For e.g. Web of Science, Scopus,

Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

- Citation Index – range / average: <1 to 66; 6

- SNIP

- SJR

- Impact Factor – range / average: 0 to 11.261; 2.83472

- h-index :

Synopsis of Publications

Publications		2011	2012	2013	2014	2015	Total
Paper (peer-reviewed)	National	1	0	0	0	2	3
	International	28	35	28	31	25	147
Books & Monographs	National						
	International	1	0	1	0	1	3
Articles in magazine/ Newspaper							

23. Details of patents and income generated: NIL.

24. Areas of consultancy and income generated: NIL

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

Dr. Pulak K. Ghosh visited the laboratory of Professor Franco Nori, Quantum Condensed Matter Research Group, Center for Emergent Matter Science, RIKEN, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan during November-December, 2015.

26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Prof. Bijan Das

Member, Executive Council, Indian Society for Surface Science & Technology.

Member, Editorial Board, International Journal of Chemical Engineering Research.

Member, Editorial Board, International Journal of Chemistry & Chemical Engineering.

Member, Editorial Board, International Journal of Environmental Engineering and Management.

Member, American Chemical Society, USA.

Member, Indian Association for the Cultivation of Science.

Prof. Gandhi K. Kar

Member, Indian Chemical Society

Member, Indian Association for the Cultivation of Science.

Dr. Adity Bose

Member, Indian Photobiology Society, Kolkata

Member, Indian Society for Surface Science and Technology, Kolkata

Indian Physical society, IACS, Kolkata

Member, Editorial Board, Journal of Chemistry & Biochemistry.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- The younger faculty members of the department participate regularly in Orientation Programmes/Refresher Courses, Workshops, Training Programmes etc. in other Universities.

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects:
 - 100% UG and PG final year students carry out in-house projects (as part of their curricula) each year.
- percentage of students doing projects in collaboration with other universities / industry / institute:
 - 52 students have completed projects in industry and institutes as summer research programme in last four years. Summer Research Fellowship (Annexure 3) and Inspire and National Scholarships.

29. Awards / recognitions received at the national and international level by

- **Faculty**
 - Prof. Bijan Das has been awarded Honorary Membership of the American Chemical Society, USA (2015).
 - Prof. Bijan Das awarded Certificate of Appreciation for Valuable Contribution and Dedicated Service in the Peer Review of Manuscripts Submitted to the American Chemical Society Journals (2011).
 - Dr. Pulak K. Ghosh received Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship (2011).
 - Dr. Sasikumar Palani received Alexander von Humboldt postdoctoral fellowship, Germany, (2010-2012).
 - Dr. Krishna Pada Bhabak received Alexander von Humboldt postdoctoral fellowship, Germany, (2010-2012).
 - Dr. Krishna Pada Bhabak Awarded INSPIRE Faculty by Department of Science and Technolog, (DST), India (2013).

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- Dr. Biplab Biswas received The Karlsruhe Institute of Technology fellowship for Guest Scientist, Germany (2011).
- **Doctoral / post doctoral fellows**
 - Dr. Satyajit Mondal has been awarded DS Kothari Postdoctoral Fellowship (UGC) Under the supervision of Prof. Bijan Das (2015).
- **Students**

2012-13

- 30 UG (Chem. Hons.) students qualified in JAM (IIT Entrance) Examination 2012.
- 3 UG (Chem. Hons.) students have been selected for the integrated Ph.D programme of IISc Bangalore and 2 in JNCASR.
- 5 UG (Chem. Hons) students were also selected for integrated Ph.D Programme at IACS though all of them opted for IIT M.Sc Programme.
- 6 Postgraduates student have qualified in NET CSIR / UGC / GATE/ LS Examination

2013-14

- 30 UG (Chem. Hons.) students qualified in JAM (IIT Entrance) Examination 2013.
- 30 UG (Chem. Hons.) students qualified in JAM (IIT Entrance) Examination 2013 and TIFR Admission test to join different IIT's and I.I.Sc Bangalore, TIFR, Mumbai, JNCASR, Bangalore, Hyderabad Central University etc for their higher studies.
- 8 PG and 3 UG students have qualified in NET CSIR / UGC / GATE/ LS Examination
- 13 UG students ranked within the top 73 in JAM including an all-India second rank.
- 4 students selected for TIFR integrated Ph.D. programme.
- 8 students selected in the integrated Ph.D. programme (ranked within first 15 including the first rank) of the Hyderabad Central University.
- 3 students selected for the integrated Ph.D. programme of JNCASR
- 3 students selected for the integrated Ph.D. programme of IISER, Kolkata
- 1 student selected for the integrated Ph.D. programme of the Bose Institute, Kolkata.
- 10 (PG and UG) students have qualified in NET Examination.
- 3 PG students have qualified in GATE Examination.

2014-15

- Around 20 UG students qualified in JAM examination 2015 with good rank and are eligible for admission to 5-6 top IIT's M.Sc. programme. Five students ranked (all India rank 2, 5, 8, 10, 15) within first 15 while a total of 12 ranked within first 100 in all India level.
- 3 Biochemistry (UG) students qualified in JAM examination 2015
- 3 UG students have been selected for the Integrated Ph.D Programm at TIFR, Mumbai.

- 2 Biochemistry (UG) students have been selected for the Integrated Ph.D Programm at IISER, Pune.
- 1 Biochemistry (UG) students have been selected for Masters programme in Hong Kong University.
- 10 PG students qualified in UGC-CSIR-NET Examination.
- 1 PG student selected for the Ph.D. programme of TIFR.
- 1 PG student selected for the Ph.D. programme of IISc.
- 1 UG student has been offered fellowships from three Universities (University of Massachussets, Dartmouth, USA; State University of New York, NY, USA & Tulane University, New Orleans, USA for the Ph.D programme.
- 1 UG student awarded Kishore Vaigyanik Protshan Yojona (KUPY) Fellowship. (Annexure 3)

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any. (provide List in annexure)

- In last four years 34 seminars/conferences/student enrichment programmes have been arranged. At least one national level seminar is arranged every year(Annexure 4).

31. Code of ethics for research followed by the departments

- The department is committed to conduct very high quality research and consequently follows International code of ethics set by international journals and books. Hazardous chemicals are disposed of following safe and recommended standard.

32. Student profile programme-wise:

Year	Name of the programme	Application received	selected		Pass Percentage (wrto previous year results)	
			Male	Female	M	F
2015	UG	2505	28	12	100%	100%
	PG	800	21	10	100%	100%
2014	UG	3276	20	14	100%	100%
	PG	1005	15	9	100%	100%
	PhD	8	1	1	100%	100%
2013	UG	1537	26	19	100%	100%
	PG	1200	16	18	100%	100%

33. Diversity of students

Name of the Programme (refer to question no. 4)	% of Students from the Same University	% of students from other universities within the State	% of students from universities outside the State	% of students From Other countries
UG	NA	NA	NA	NA
PG	6%	94%	0	0
PhD	0%	100%	-	-

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34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- NET/SET/GATE: 44 (Annexure 3) + West Bengal Civil Service: 01

35. Student progression (Annexure for indicative list)

	Student progression	Percentage against enrolled
	UG to PG	100%
	PG to M.Phil.	
	PG to Ph.D.	90-100%
	Employed	
•	Campus selection	About 12% campus recruitment. Rest either pursuing PhD or are employed.
•	Other than campus recruitment	All pass outs are either employed or pursuing higher studies in India and abroad.

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	10%
from other universities within the State	70%
from universities from other States from	20%
universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period : NIL

38. Present details of departmental infrastructural facilities with regard to

- Library: The Department houses a library having a total of around 1500 text and reference books.
- Internet facilities for staff and students: Internet facility (both LAN and WiFi) is available.
- Total number of class rooms: 08
- Class rooms with ICT facility: WiFi facility is available in all class rooms.
- Students' laboratories: 09
- Research laboratories: 10

39. List of doctoral, post-doctoral students and Research Associates

- Currently there are 50 research students at doctoral and postdoctoral programmes along with research students carrying out research as Project Assistants (**Annexure 5**).
 - from the host institution/university : 20%
 - from other institutions/universities : 80%

40. Number of post graduate students getting financial assistance from the university.

- Many students receive free studentship, merit-cum-means scholarship, University Research Fellowship.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- During revision of syllabi, the external experts are invited and the recommendations are placed before the Board of Studies for ratification. These are then placed before the Governing Council of the University for approval.

42. Does the department obtain feedback from

- a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
- b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
- c. alumni and employers on the programmes offered and how does the department utilize the feedback?
 - The Department receives feedback on syllabi and teaching methodologies from the students, teachers, staff, alumni on a regular basis and modifies its practices depending upon the feedback received.

43. List the distinguished alumni of the department (maximum 10)

- The Late Prof. Amarnath Bhaduri, Ex-Director, Indian Institute of Chemical Biology, Kolkata (Bhatnagar Awardee)
- Prof. Siddhartha Roy, Ex-Director, Indian Institute of Chemical Biology, Kolkata (Bhatnagar Awardee)
- Prof. Debasis Mukherjee, Ex-Director, Indian Association for the Cultivation of Science, Kolkata (Bhatnagar Awardee)
- Prof. Kankan Bhattacharyya, Ex-Director, Indian Association for the Cultivation of Science, Kolkata (Bhatnagar Awardee)
- Prof. Deb Sankar Roy, Indian Association for the Cultivation of Science, Kolkata (Bhatnagar Awardee)
- Prof. Bhabatarak Bhattacharyya, Bose Institute (Bhatnagar Awardee)
- Prof. Biman Bagchi, Indian Institute of Science, Bengaluru (Bhatnagar Awardee)
- Prof. Uday Maitra, Indian Institute of Science, Bengaluru (Bhatnagar Awardee)
- Prof. Tushar Chakraborty, Indian Institute of Chemical Technology, Hyderabad (Bhatnagar Awardee)
- Dr. Sumit Bhaduri, Reliance Industries (Bhatnagar Awardee)

(All graduated from the erstwhile Presidency College)

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts. (provide List in annexure)

The Department organizes seminars, lectures etc. throughout the year as a part of the student enrichment programme (**Please see Annexure 4**).

45. List the teaching methods adopted by the faculty for different programmes.

- Classroom lectures (conventional and powerpoint presentations with appropriate teaching aids), seminars, projects, lab works, regular visits of the UG and PG students in the departmental research laboratories along with hands-on research experience with the research groups of the members of the faculty. Interactive classroom teaching is encouraged.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- The department constantly monitors the teaching-learning processes by regular teacher-student interactions and class tests. Also the feedback from the students regarding teaching and learning is taken into consideration in order to ensure that the programme objectives are constantly met and learning outcomes are monitored.

47. Highlight the participation of students and faculty in extension activities.

- The faculty members and the students participate regularly in various co-curricular and extra-curricular activities. The cultural programs organized by the students during “Freshers’ Welcome” of the newcomers, “Farewell” of the outgoing students, “Teachers’ Day” Celebration are really of very high standards.

48. Give details of “beyond syllabus scholarly activities” of the department.

- The department regularly organizes technical seminars. Students enthusiastically participate in these seminars and take part actively in the discussion sessions. The students are encouraged to go through the scientific research articles published in various international journals. They often deliver lectures on the basis of what they have learnt by reading these articles. Many of them design and carry out simple experiments to verify the published results. During the semester-breaks, a large number of students works in the research groups of the departmental faculty members and gains a first-hand experience of research activities. The third year B.Sc. Chemistry students organize “CHEMI-QUIZ” – an inter-College Quiz Competition in Chemistry every year which help disseminate knowledge of chemistry among the students.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. No.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- The department has produced many eminent scientists of our country who have served or continue to serve in the capacity of faculty in various universities and institutes in India and abroad. Some of the Indian institutions where the alumni of Presidency served/s includes IITs, IICB, IACS, IISc, IISERs, IICT, JNCASR etc. They contributed/s immensely in generating new knowledge both in basic and applied areas of chemical sciences and related fields. The Bhatnagar Awardees who are the ex-students of Presidency (Prof. Mihir Chowdhury, Prof. Amarnath Bhaduri, Prof. Debasis Mukherjee, Prof. Bhabatarak Bhattacharya, Prof. Biman Bagchi, Prof. Deb Sankar Ray, Prof. Kankan Bhattacharyya, Prof. Siddhartha Roy, Dr. Sumit Bhaduri, Prof. Uday Maitra, Prof. Tushar Chakrabarty to name a few) played a pivotal role in generating as well as in disseminating new knowledge of chemistry, in particular and of science, in general.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths: Devoted and knowledgeable teachers; Good research groups; Premier student intake from across the nation; Generous financial support by different funding agencies as well as by the university through Faculty Research & Professional Development (FRPDF) Scheme; Research collaboration with other universities in India and abroad.

Weaknesses: The Department is developing research infrastructure to attract majority of our students who qualify in the NET and JAM.

Opportunities and Challenges: A great opportunity for the department lies in our desire to have a number of young, enthusiastic and vibrant faculty members, majority of them with extensive postdoctoral research and teaching experience abroad. Immediate challenge is to develop state-of-the-art teaching and research laboratories.

52. Future plans of the department.

The principal objective of the department is to provide a premier undergraduate and postgraduate teaching and advanced research experience to the students. In view of this, the future plans of the department include:

- Development of strong collaborative research with various groups of India and abroad.
- Establishment of 2-3 modern Instrument Rooms to house the sophisticated instruments procured/to be procured by the members of the faculty.
- Development of the teaching and research laboratories with modern equipments.
- Development of a Central Computational Facility and a Central Major Equipment Facility for research work.
- Strengthening the Departmental Library.
- Modernisation of the old research laboratories.
- Modernisation of all lecture theatres.
- Establishment of a departmental auditorium (approx. capacity: 200) for organising seminars/conferences.

Annexure 1

List of Research Projects (2011-15)

Sl. No.	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received
1	2013	2015	UGC	Dr. Adity Bose	Photophysical Behavior of Some Biologically important phenolic compounds in environments mimicing biological membranes	1,20,000/-	82,500/-
2	2014	2016	UGC	Dr. Adity Bose	Effect of medium in controlling the reaction pattern of potential drug molecules	6,00,000/-	6,00,000/-
3	2015	2018	DST	Dr. Adity Bose	Interactions of model drugs with biologically significant molecules in different microenvironments	26,00,000/-	18,00,000/-
4	2014	2017	DST	Dr. Anjoy Majhi	Development of novel thienopyrimidine for pharmaceutical composition to eliminate human cancers and imaging lead	20,20,000/-	15,70,000/-
5	2014	2016	UGC	Dr. Anjoy Majhi	Development of novel protein kinase C (PKC) modulators for early diagnosis of human cancers and imaging lead	6,00,000/-	6,00,000/-
6	2015	2017	UGC	Dr. Arnab Halder	Spectroscopic study of synthetically modified Graphene Oxide	6,00,000/-	6,00,000/-
7	2011	2015	DST-SERB	Prof. Bijan Das	Interaction between polyelectrolytes and surface active ionic liquids	30,35,800/-	27,09,800/-
8	2015	2018	DST	Dr. Biplab Biswas	Synthesis and Characterization of Polynuclear Chiral Magnets	24,26,000/-	13,75,333/-
9	2015	2017	UGC	Dr. Biplab Biswas	Magneto-structural study on 3d - and 3d - 4f metal complexes	6,00,000/-	6,00,000/-
10	2014	2017	DST	Dr. Dhruva Prosad Chatterjee	Preparation of advanced membrane materials for affinity chromatography	18,90,000/-	15,00,000/-
11	2015	2017	UGC	Dr. Dhruva Prosad Chatterjee	Preparation of CdS nano particles in stimuli responsive polymer templates: An approach for the synthesis of 'smart' Q-particles	6,00,000/-	6,00,000/-
12	2012	2015	DST-SERB	Prof. Gandhi K. Kar	Studies towards the synthesis of biologically active natural and non-natural furoquinones, furo-macrolides and their thiophene analogs	23,00,000/-	23,00,000/-
13	2013	2018	DST-INSPIRE	Dr. Krishna Pada Bhabak	Enhancement of the Anti-cancer Properties of Lipids: Possible Role of Antioxidants towards Cancer	35,00,000/-	14,00,000/-

Sl. No.	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received
14	2014	2017	DST	Dr. Krishna Pada Bhabak	Design and Synthesis of Novel Fluorescent Substrates for Sphingolipid Metabolizing Enzymes	22,80,000/-	12,50,000/-
15	2014	2016	UGC	Dr. Krishna Pada	Design and Synthesis of Fluorescent Organosulfur Compounds to Study their Anti-cancer Potentials	6,00,000/-	6,00,000/-
16	2014	2017	DST	Dr. Koena Ghosh	Design and Synthesis of chiral NHC ligands for asymmetric reactions	25,40,000/-	12,50,000/-
17	2015	2017	UGC	Dr. Pulak Kumar Ghosh	Study of energy- and charge-transfer dynamics in some natural photosynthetic structures	6,00,000/-	6,00,000/-
18	2015	2018	DST	Dr. Pulak Kumar Ghosh	Investigations of diffusion phenomena of self-propelled Janus particles occurring in confined geometries	29,06,000/-	19,68,666/-
19	2014	2017	DST	Dr. Sasikumar Palani	New Boron-containing polymeric hybrid Materials	23,56,000/-	11,00,000/-
20	2014	2016	UGC	Dr. Sasikumar Palani	Synthesis, Characterization and Properties of New Boron-doped Graphenes	6,00,000/-	6,00,000/-
21	2013	2016	DST	Prof. Sanjib Ghosh	Photoinduced energy transfer/electron transfer in systems consisting of multiple donors and acceptors and stepwise unfolding of multityryptophan proteins.	55,00,000/-	37,60,000/-
22	2012	2015	CSIR	Prof. Sanjib Ghosh	Photophysical aspects and photoinduced energy transfer/ electron transfer in ternary system consisting of two donors and one acceptor	20,02,333/-	16,63,325/-
23	2009	2014	CSIR	Prof. Sanjib Ghosh	Photophysical aspects and docking studies of the interaction of biomolecules with other molecules	4,05,867/-	4,05,867/-
24	2009	2013	CSIR	Prof. Sanjib Ghosh	Photophysical aspects and docking studies of bio-molecules with emphasis on photoinduced energy	11,00,000/-	11,00,000/-
25	2009	2014	CSIR	Prof. Sanjib Ghosh	Time resolved emission studies in protein and peptides at different temperatures.	13,04,600/-	11,14,034/-
26	2009	2013	DST	Prof. Sanjib Ghosh	Photoinduced energy transfer, photophysical aspects, and docking studies of biomolecules and their interaction with other molecules.	56,00,000/-	46,00,000/-

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Sl. No.	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received
27	2007	2011	CSIR	Prof. Sanjib Ghosh	Photoinduced electron transfer, energy transfer and related photophysical aspects of some Biomolecules and Supramolecular systems, charge transfer complexes	14,68,000/-	14,68,000/-
28	2010	2013	CSIR	Dr. Uday Ch. Ghosh	Synthesis characterization and evaluation of some polymer nanocomposites based on nanodimensional polyvalent transition metal mixed oxides.	13,36,975/-	13,36,975/-
29	2012	2015	DST	Dr. Uday Ch. Ghosh	Design and validation of arsenic removal water filter using nano structured non toxic synthetic materials: A lab to field nanotechnology transfer programme.	19,46,600/-	19,46,600/-
30	2014	2016	Public Health	Dr. Uday Ch. Ghosh	Design and validation of fluoride removal water filter using nano structured non toxic synthetic materials: A lab to field nanotechnology transfer programme.	15,00,000/-	7,50,000/-
31	2015	2017	UGC	Dr. Uday Ch. Ghosh	Graphene oxide based polyvalent metal oxide nanocomposite: Preparation, Characterisation and efficiency evaluation on Arsenic and Fluoride removal from contaminated water	8,91,200/-	5,70,200/-
32	2012	2016	FRPDF	All faculty members	Faculty Research and Professional Development Fund provided by Presidency University	-	44,49,598/-

Annexure 2

List of Publications in papers (peer-reviewed only), Books, Monographs, Last Five Years

2011:

1. **Biswas, B.**, Mougel, V., Marinella Mazzanti, J.P., (2011), Base Driven Assembly of Large Uranium Oxo/Hydroxo Clusters *Angew. Chemie., Int. Ed.*, v. 50, p. 5744. This article featured as Back Cover of the journal (Impact Factor : 11.261, Citations: 40).
2. Weyhermüller, T., Wagner R., **Biswas, B.**, and Phalguni Chaudhuri, P., (2011) A non-linear (2,2,2) alkoxo-bridging in a Fe(III) 4O6 corepotentially relevant to iron-tunicates *Inorganica Chimica Acta*, v. 374, p. 140. (Impact Factor: 2.04, Citations: 2).
3. Haldar.I., Kundu. A., **Biswas. M.** and Nayak. A., (2011), Preparation and evaluation of a poly (N-vinylcarbazole) Fe₃O₄ (PNVCF₃O₄) nanocomposite. *Materials Chemistry and Physics*, v. 161, p. 1400-1407 (Impact Factor: 2.259, Citations: 6).
4. Haldar.I., **Biswas. M.** and Nayak.A., (2011), Microstructure, dielectric response and electrical properties of polypyrrole modified (poly N-vinyl carbazole Fe₃O₄) nanocomposites. *Synthetic Metals*, v. 161, p. 1400-1407 (Impact Factor : 2.252, Citations: 11).
5. Samanta, S., **Chatterjee D. P.**, and Layek, R. K., (2011), Multifunctional Porous Poly(vinylidene fluoride)-graft-Poly(n-butyl methacrylate) with Enhanced Li⁺ ion Conductivity, *Macromol. Chem. Phys.*, v. 212 (2), p. 134-149. (Impact Factor: 2.62 , Citations: 12).
6. Ray, P. S., **Chattopadhyay, G.**, (2011), Facile method for the conversion of Semicarbazones/ Thiosemicarbazones into Azines (Under Microwave Irradiation) and Oxadiazole (by Gridding). *Synth. Commun.* v. 41, p. 2607. (Impact Factor :0.929, Citations: 0).
7. Ray, P. S., **Chattopadhyay, G.**, (2011), Hydrazine-Hydroquinone complexas a efficient solid phase hydrazine Donor: High yield synthesis of Iuminol and isoluminol. *J. Chem. Res.*, v. 326 (Impact Factor : NA, Citations: 0).
8. Guha, C. and **Das, B.**, (2011), Electrical Conductances of Sodium Nitrate and Ammonium Nitrate in 2-Methoxyethanol + Water Mixtures at 298.15, 308.15, 313.15, 318.15, and 323.15 K. *Journal of Molecular Liquids.* v. 160, p. 187. (Impact factor: 2.515 , Citations: 2).
9. Nandi, P. and **Das, B.**, (2011), Electrical Conductances of Sodium Carboxymethylcellulose in Acetonitrile (1) + Water (2) Mixed Solvent Media in the Presence of Sodium Chloride at 308.15 K. *Journal of Chemical & Engineering Data.* v. 56, p. 2870. (Impact factor: 2.037, Citations: 2).
10. Mukherjee, S., **Gangopadhyay, S.**, Basak, Zangrado, S. and Gangopadhyay, P.K., (2011), Synthesis, charecterisation and structures of Ni (II) and Palladium (II) complexes of aromatic thiohydrazides, *J. Coord. Chem*, v. 64, p. 3700 (Impact Factor : 2.012, Citations: 1).
11. **Ghosh, P.**, Shit, A., Chattopadhyay, S., Ray Chaudhuri, J., (2011), A microscopic model for noise induced transport: Heat bath nonlinearly driven by external white noise. *Chaos*, v. 21, p. 013117-013126. (Impact Factor : 1.954, Citations: 2).
12. **Ghosh, P.**, Shit, A., Chattopadhyay, S., Ray Chaudhuri, J., (2011), A semiclassical approach to explore the bistable kinetics of a Brownian particle in a nonequilibrium environment. *J. Stat. Mech.*, doi : 10.1088/1742-5468/2011/02/P002026. (Impact Factor : 2.404, Citations: 1).

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13. Saha Roy, A., Saha, P. Mitra, P., Maity, S., **Ghosh, P.**, (2011) Unsymmetrical diimine chelation to M(II) (M = Zn, Cd, Pd): atropisomerism, pi-pi stacking and photoluminescence, Dalton Trans., v. 40, p. 7375 (Impact Factor : 4.197, Citations: 17).
14. Borromeo, M., Marchesoni F., and **P. K. Ghosh**, (2011), Communication: Driven Brownian Transport in Eccentric Septate Channels, J. Chem. Phys v.134, p. 051101. (Impact Factor: 2.952, Citations: 35).
15. **Ghosh, P. K.**, Smirnov, A. Yu., and Nori, F., (2011), Quantum effects in energy and charge transfer in an artificial photosynthetic complex, J. Chem. Phys, v. 134, p. 244103. (Impact Factor: 2.952, Citations: 28).
16. **Ghosh, P. K.**, Glavey, R., Marchesoni, F., Savel'ev S. E., and Nori, F., (2011), Geometric stochastic resonance in a double cavity, Phys. Rev. E, v. 84, p. 011109. (Impact Factor: 2.288, Citation: 20).
17. **Ghosh, P. K.**, Li M. S., and Bag, B. C., (2011) Periodic force induced stabilization or destabilization of the denature state of a protein, J. Chem. Phys., v. 135, p. 114101. (Impact Factor: 2.952, Citation: 04).
18. **Ghosh, P. K.**, Smirnov, A. Yu., and Nori, F., (2011), Artificial photosynthetic reaction centers coupled to light-harvesting antennas, Phys. Rev. E, v. 84, p. 061138. (Impact Factor: 2.288, Citation: 11).
19. Gupta, K., Bhattacharyya, S., Mukhopaddhay, A, Biswas, H.S., Datta, J., Ray, N. R. and **Ghosh U.C.**, (2011), Ceria associated manganese oxide nano particle: Synthesis, characterization and arsenic (V) sorption behavior. Chemical Engineering Journal, v. 172, p. 219-229 (Impact Factor : 4.321, Citations: 0).
20. Debnath, S., Nandi, D. and **Ghosh, U. C.**, (2011), Adsorption desorption behavior of cadmium(II) and copper(II) on the surface of nanoparticle agglomerates of hydrous titanium (IV) oxide. Journal of Chemical & Engineering Data, v. 56, p. 30213028. (Impact Factor : 2.037, Citations: 9).
21. Debnath, S. and **Ghosh, U. C.**, (2011), Equilibrium modeling of single and binary adsorption of Cd(II) and Cu(II) onto agglomerated nano structured titanium (IV) oxide. Desalination, v. 273, p. 330342. (Impact Factor : 1.9, Citations: 28).
22. Basu, T. and **Ghosh, U.C.**, (2011), Influence of groundwater occurring ions on the kinetics of As(III) adsorption reaction with synthetic nanostructured Fe(III) Cr(III) mixed oxide., Desalination, v. 266, p. 2532 (Impact Factor : 3.756, Citations: 0).
23. Basu, T. and **Ghosh, U. C.**, (2011), Arsenic (III) removal performances in the absence/presence of groundwater occurring ions of agglomerated Fe(III)-Al(III) mixed oxide nanoparticles. Journal of Industrial & Engineering Chemistry, 17, 834844. (Impact Factor : 3.512, Citations: 10).
24. Das R, Shaik, F. H., **Kar G. K.**, (2011), Short and general method for the synthesis of 2-halocyclo- alk-1-enecarboxylic esters from 2-halocycloalk-1-enecarbaldehyde. Indian J. Chem., v. 50B, p. 299-303. (Impact factor: 0.387, Citations: 0).
25. Das, J., Pany, S., and **Majhi, A.**, (2011), Chemical Modifications of Resveratrol for Improved Protein Kinase C alpha Activity. Bioorganic and Medicinal Chemistry 19, 5321-5333. (Impact factor: 2.793, Citation: 15).
26. Das, J., Pany, S., Panchal, S., **Majhi, A.**, and Rahman, G. M., (2011), Binding of isoxazole and pyrazole derivatives of curcumin with the activator binding domain of novel protein kinase C. Bioorganic and Medicinal Chemistry, v. 19, p. 6196-6202. (Impact factor 2.793, Citation: 11).
27. Holla, H., Yallamalla, S., **Majhi, A.**, Gannoju, S., Balasubramanian, S., Arepalli, S. K., Janapala, V. R., and Das, B., (2011), Novel cytotoxic constituents of Orthosiphon diffuses. Tetrahedron Letters, v. 52, p. 49-52. (Impact Factor: 4.197; Citation: 05).
28. Maity, D., Chattopadhyay. S., Ghosh. A. Drew, M.G.B. and **Mukhopadhyay, G. C.**, (2011), Synthesis,

Characterization and X-ray crystal structures of a mono- and a penta-nuclear Ni(II) complex with oxymet Schiff base ligands. *Inorg. Chim. Acta.*, v. 365, p. 25-30 (Impact Factor : 2.046, Citations: 0).

29. Giri, S., Maity, D., Godsell, J. F., **Mukhopadhyay, G.**, Roy, S., Saha, S.K., and Ghosh, A., (2011) A new tetra nuclear copper (II) complex with oxymet bridges : structure, magnetic properties and DFT study. *Inorg. Chim. Acta*, v. 377, p. 99. (Impact Factor : 2.046, Citations: 0).

2012:

1. Kedia, N., Sarkar, A., Purkayastha, P. and **Bagchi, S.**, (2012), Ketocyanin dyes as sensors for practical and pH of a medium. *Acta A*, v. 95, p. 59. (Impact factor 2.35, Citations: 7).
2. Sarkar, A., Kedia, N., Purkayastha, P. and **Bagchi, S.**, (2012), Photophysics of two structurally similar dyes containing substituted amino as donor and carbonyl as acceptor group. *Lumin.*, v. 132, p. 2345. (Impact factor 1.518, Citations: 4).
3. Sardar, S., Srikant, K., Mandal, P. and **Bagchi, S.**, (2012), Interaction of alkali, alkaline earth and transition metal ions with a ketocyanine dye: A comparative electrochromic spectroscopic study. *Spectrochim. Acta A*, v. 99, p. 3745. (Impact factor 2.35, Citations: 2).
4. Camp, C., Guidal, V., **Biswas, B.**, Pécaut, J., Dubois L., and Mazzanti, M., (2012) , Multielectron Redox Chemistry of Lanthanide Ions Supported by Tetradentate Schiff Bases, *Chemical Science*, v. 3, p. 2433. (Impact Factor: 9.211 , Citations: 0).
5. Camp, C., Guidal, V., **Biswas, B.**, Pécaut, J., Dubois L., and Mazzanti, M. (2012) Inside Cover: Multielectron Redox Chemistry of Lanthanide Ions Supported by Tetradentate Schiff Bases *Chemical Science*, v. 3, p. 2398. (Impact Factor: 9.211, Citations: 12)
6. Haldar. I., **Biswas. M.**, Nayak. A. and Ray. S.S., 2012, Morphological, Dielectric and Electrical Conductivity Characteristics of Clay-Containing Nanohybrids of Poly (N-vinyl carbazole) and Polypyrrole. *J. Nanosci. Nanotechnol.*, v. 12, p. 7841-7848. (Impact Factor: 1.56, Citations: 4)
7. Haldar. I., **Biswas. M.** and Nayak. A., (2012), Preparation and evaluation of microstructure, dielectric and conductivity (Ac/Dc) characteristics of a polyaniline/poly N-vinyl carbazole/ Fe₃O₄ nanocomposite. *J. Polym. Res.*, v. 19, p. 1-9. (Impact Factor: 1.92, Citations: 4)
8. Haldar. I., **Biswas. M.**, Nayak. A. and Ray. S.S., (2012), Some Observations on Microstructure, Dielectric Response and Ac/ Dc Conductivity Characteristics of a Polyaniline- Montmorillonite Clay Hybrid. *J. Nanosci. Nanotechnol.*, v. 12, p. 7841-7848. (Impact Factor: 1.556, Citations: 0).
9. Chatterjee, A., **Das, B.** and Das, C., (2012), Polyion-counterion interaction behavior for sodium carboxymethylcellulose in methanol-water mixed solvent media. *Carbohydrate Polymers*, v. 87, p. 1144-1152. (Impact Factor: 3.463, Citations: 4).
10. Bhattarai, A. and **Das, B.**, (2012), Solvodynamic properties of sodium polystyrene-sulfonate in methanol-water mixed solvent media in absence and in the presence of a salt using viscometric method. *Macromol. Symp.*, v. 315, p. 52-59. (Impact Factor: 1, Citations: 3).
11. Gupta, S., Chatterjee, A., Das, S., Basu, B. and **Das, B.**, 2012, Electrical conductances of 1-butyl-3-propylimidazolium bromide and 1-butyl-3-propyl- benzimidazolium bromide in water, methanol, and acetonitrile at (308, 313, and 318) K at 0.1 MPa. *J. Chem. Eng. Data*, v. 58, p. 1. (Impact Factor: 2.04, Citations: 4).
12. Nandi D., Talukdar, A., Ghosh, U. C., De, A., Bhunia, S. and **Ghosh, A. K.**, (2012), Reduced Graphene Oxide/

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Ethylene Vinyl Acetate Co-polymer Composite with Improved Thermal Stability and Flame Retardancy. *Journal of Polymer Materials*, v. 29, p. 401- 411. (Impact Factor: 0.319, Citations: 0).

13. **Ghosh, P.**, Chattopadhyay, S. and Ray Chaudhuri, J., (2012), Enhancement of current commensurate with mutual noise-noise correlation in a symmetric periodic substrate: The benefits of noise and nonlinearity. *Chem. Phys.*, v. 402, p. 48-55. (Impact Factor: 1.65, Citations: 2).
14. **Ghosh, P. K.**, Hänggi, P., Marchesoni, S., Martens, F., Nori, F., Schimansky-Geier L., and Schmid, G., (2012), Driven Brownian transport through arrays of symmetric obstacles, *Phys. Rev. E*, v. 85, p. 011101. (Impact Factor: 2.228, Citations 30).
15. **Ghosh P. K.**, and Marchesoni, F., (2012), Particle transport through deformable pore geometries (letters to the editor/note), *J. Chem. Phys.* v.136, p. 116101. (Impact Factor: 2.952, Citations: 09).
16. **Ghosh, P. K.**, Hänggi, P., Marchesoni, F., Nori, F., and Schmid, G., (2012), Detectable inertial effects on Brownian transport through narrow pores, *Europhys Letts.* v. 98, p. 5002. (Impact Factor: 2.095, Citations: 21).
17. Bosi, L., **Ghosh, P. K.**, and Marchesoni, F., (2012), Analytical estimates of free Brownian diffusion in a corrugated narrow channel, *J. Chem. Phys.*, v. 137, p. 174110. (Impact Factor: 2.952, Citations: 12).
18. **Ghosh, P. K.**, Hänggi, P., Marchesoni, F., Nori, F., and Schmid, G., (2012), Brownian transport in corrugated channels with inertia, *Phys. Rev. E*, v. 86, p. 021112. (Impact Factor: 2.228, Citations: 33).
19. Abtab, Sk. Md. T., Audhya, A., Kundu, N., Samanta, S. K., Saha Sardar, P., **Ghosh, S.** and Chaudhury, M., (2012), Tetranuclear homo- (ZnII₄ and CdII₄) and hetero-metal (ZnII₂TbIII₂ and CdII₂TbIII₂) complexes with a pair of carboxylate ligands in a rare η²:η²:μ⁴-bridging mode: syntheses, structures and emission properties. *Dalton Trans.*, v. 42, p. 5. (Impact factor: 4.197, Citations: 0).
20. Ghosh, R., Mukherjee, M., Chattopadhyay, K. and **Ghosh, S.**, (2012), Unusual Optical Resolution of All Four Tryptophan Residues in MPT63 Protein by Phosphorescence Spectroscopy: Assignment and Significance. *J. Phys Chem. B*, v. 116, p. 12489–12500. (Impact factor: 3.3, Citations: 7).
21. Ghorai, S. K., Samanta, S., Mukherjee, M. and **Ghosh, S.**, (2012), Protein Mediated Efficient Synergistic “Antenna Effect” in a Ternary System in Aqueous Medium. *J. Phys Chem. A*, v. 112, p. 8303-8312. (Impact factor: 2.69, Citations: 4).
22. Mukherjee, M., Saha Sardar, P., Ghorai, S. K., Samanta, S., Dasgupta, S. and **Ghosh, S.**, (2012), Interaction of Multitryptophan Protein with Drug: An Insight into the Binding Mechanism and the Binding Domain by Time Resolved Emission, Anisotropy, Phosphorescence and Docking. *J. Photochem. Photobiol. B; Biology*, v. 115, p. 93–104. (Impact factor: 2.96, Citations: 0).
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h-indices of the Members of Faculty

Name of the Faculty	h-index as per Google Scholar citations on 18-12-2015
Bijan Das	24
Gandhi K. Kar	11
Adity Bose	8
Anjoy Majhi	15
Arnab Halder	9
Biplab Biswas	11
Dhruba Prosad Chatterjee	10
Koena Ghosh	6
Pulak K Ghosh	16
Sasikumar Palani	8

Annexure 3

Names of Students with outstanding achievements and placements for higher studies (2011-15)

Sr. No.	Name	Achievement
1	Anirban Mishra	Qualified in TIFR integrated Ph.D. Programme
2	Moumita Chakraborty	Qualified in TIFR integrated Ph.D. Programme
3	Gourab Kundu	Qualified in TIFR integrated Ph.D. Programme
4	Soumyadipa	Qualified in TIFR integrated Ph.D. Programme
5	Chandrima Patra	Qualified in TIFR integrated Ph.D. Programme
6	Arunava Ghosh	Qualified in TIFR integrated Ph.D. Programme
7	Soumyajit Mitra	Qualified in TIFR integrated Ph.D. Programme
8	Somnath Singha	Qualified in TIFR integrated Ph.D. Programme
9	Joyeeta Chakraborty	Qualified in TIFR integrated Ph.D. Programme
10	Rituparna Saha	Qualified in TIFR integrated Ph.D. Programme
11	Krishenendu Roy	Qualified in TIFR integrated Ph.D. Programme
12	Sayan Panja	Qualified in TIFR integrated Ph.D. Programme
13	Subhajit Das	Qualified in TIFR integrated Ph.D. Programme
14	Anustup Chakraborty	Qualified in TIFR integrated Ph.D. Programme
15	Rima Saha	Summer Research Fellowship at JNCASR 2015
16	Sourajit Dey Bakshi	IAS Summer Research Fellowship 2015
17	Soumadip Banerjee	IAS Summer Research Fellowship 2015
18	Srijon Ghosh	IAS Summer Research Fellowship 2015
19	Souvik Ghosal	IAS Summer Research Fellowship 2015
20	Ranadeb Ball	IAS Summer Research Fellowship 2015
21	Rajasree Kundu	IAS Summer Research Fellowship 2015
22	Apala chowdhuty	IAS Summer Research Fellowship 2015
23	Mahesh M. Parsutkar	IAS Summer Research Fellowship 2015
24	Joyeeta Chakraborty	Joined Integrated Ph.D programme of IISER Pune 2015
25	Krishnendu	Joined Integrated Ph.D programme of IISER Pune 2015
26	Atrayee	Joined Integrated Ph.D programme of IISER Kolkata 2015
27	Divyangana Parbat	Selected for Ph.D programme of IIT Guwahati 2015
28	Tousif Hossen	Selected for Ph.D programme of IIT Guwahati 2015
29	Subrata Santra	Selected for Ph.D programme of IIT Guwahati 2015
30	Nilimesh Das	Selected for Ph.D programme of IIT Kanpur

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Sr. No.	Name	Achievement
31	Aritra Das	Selected for Ph.D programme of IIT Kanpur
32	Prioti Purba Chaudhury	Selected for Ph.D programme of IISc Bangalore
33	Saptarshi Dutta	Selected for Ph.D programme of IISER Kolkata 2015
34	Ria Sett	Selected as JRF at Calcutta University 2015
35	Kaushik Gayen	Joined IICB as JRF
36	Sourav Saha	Joined IIT Madras for Ph.D Programme 2015
37	Anustoop Chakraborty	Joined TIFR for Ph.D Programme 2015
38	Subhajit De	Joined the Ph.D. programme of TIFR 2015
39	Dibyendu Sardar	Qualified NET June 2015 40 Joined IACS Kolkata Ph.D programe 2015
40	Sourav Das	Qualified NET June 2015
41	Sudipta Bera	Qualified NET December 2014 Qualified NET June 2015
42	Sudipta Bera	Joined Ph.D. Programme of IACS Kolkata in 2015
43	Sudipa Santra	Qualified GATE 2015
44	Sudipa Santra	Joined NISER, Bhubaneswar in 2015
45	Abhishek Ghosal	Joined Ph.D. Programme of IISc Bangalore 2015
46	Ishita Das	Joined Ph.D. Programme of IIT Karagpur 2014
47	Sangeeta Sur	Joined Ph.D. Programme in USA 2015
48	Sayan Sarkar	Joined IACS Kolkata Ph.D programe in 2015
49	Poulami Chakraborty	Joined IACS Kolkata Ph.D programe in 2015
50	Chandrima Patra	Joined as JRF at NCBS, Bangalore
51	Debanjana Das	Awarded with KVPY fellowship
52	Mahesh Parsutkar	Stood first in NET December 2014 in all India level
53	Abhisek	Stood second in JAM 2015
54	Srijana	Stood fifth in JAM 2015
55	Priyam	Stood eighth in JAM 2015
56	Gourav	Stood tenth in JAM 2015
57	Anirban	Stood fifteenth in JAM 2015
58	Mrittika Roy	Offered a fellowship at USA for the Ph.D programme.
59	Krishnendu Roy	Secured all India rank of 12 in JAM 2015 (Biotech). Secured all India rank of 44 in JAM 2015 (Life Science).
60	Shantanu	Secured all India rank of 18 in JAM 2015 (Biotech). Secured all India rank of 48 in JAM 2015 (Life Science).
61	Joyeeta	Secured all India rank of 127 in JAM 2015 (Biotech).
62	Rima Saha	Selected for Summer Research Programme 2015 at JNCASR

Sr. No.	Name	Achievement
63	Sreejta Bhowmick	Selected for Summer Research Programme 2015 at JNCASR
64	Arnab Ghatak	Selected for Summer Research Programme 2015 at JNCASR
65	Souvik Miaty	Qualified UGC-NET June 2015 (Rank: 37)
66	Tanmoy Chakraborty	Qualified UGC-NET June 2015 (Rank: 33)
67	Sourav Das	Qualified UGC-NET June 2015 (Rank: 31)
68	Aritra Das	Qualified NET-LS June 2015
69	Soumyajit Patra	Qualified NET-LS June 2015
70	Srijana Barui	Joined IIT, Kanpur (JAM 2015)
71	Anirban Mishra	Joined IIT, Kanpur (JAM 2015)
72	Gourab Kundu	Joined IIT, Kanpur (JAM 2015)
73	Ananya Sah	Joined IIT, Kharagpur (JAM 2015)
74	Somnath Sengupta	Joined IIT, Kharagpur (JAM 2015)
75	Somnath Bhattacharya	Joined IIT, Kharagpur (JAM 2015)
76	Mainak Das	Joined IIT, Kharagpur (JAM 2015)
77	Bijoya Mondal	Joined IIT, Kharagpur (JAM 2015)
78	Sunita Chongre	Joined IIT, Kharagpur (JAM 2015)
79	Moumita Chakraborty	Joined IIT, Kharagpur (JAM 2015)
80	Sohang Kundu	Joined IIT, Bombay (JAM 2015)
81	Soumyadipa Chakraborty	Joined IIT, Bombay (JAM 2015)
82	Sohini Mukherjee	Joined IIT, Madras (JAM 2015)
83	Santanu Mukherjee (Biochem)	Joined IIT, Madras (JAM 2015)
84	Reshmi Dani	Joined IIT, Guwahati (JAM 2015)
85	Arunava	Joined IIT, Guwahati (JAM 2015)
86	Ishita Mukherjee	Joined IISc, Bangalore (JAM 2015)
87	Priya Das	Joined IIT, Guwahati (JAM 2015)
88	Juin Saha	Joined IIT, Guwahati (JAM 2015)
89	Rituparna (Biochem)	Joined IIT, Roorkee (JAM 2015)
90	Joyeeta Chakraborty (Biochem)	Joined IISER, Pune (JAM 2015)
91	Chandrima Patra	Joined NCBS, Pune (JAM 2015)
92	Soumyajit Patra	Joined TIFR (JAM 2015)
93	Krishnendu	Joined TIFR (2015)
94	Arunima Biswas	Joined Hyderabad Central University (JAM 2015)
95	Rina Mahato	Joined Hyderabad Central University (JAM 2015)
96	Alivia Das	Joined Hyderabad Central University (JAM 2015)
97	Sreyosee Sengupta	Joined Hyderabad Central University (JAM 2015)

Annexure 4

List of Seminars and Conferences Organized (2011-15)

Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/National level) (student enrichment programme)
1	December 6, 2012	“Predicting Biological Activity from Molecular Structure” by Dr. Rajarshi Guha, National Institute of Health, Rockville, USA	University	Student enrichment programme
2	March 26, 2013	“Porous Metal Organic Frameworks (MOFs) for Hydrogen Storage & CO ₂ Sequestration Applications” by Dr. Rahul Banerjee, Physical and Materials Chemistry Division National Chemical Laboratory, Pune	University	Student enrichment programme
3	September 6, 2013	"Application Oriented Synthesis and Surface Modification of Metal/Metal Oxide Nanocrystals" by Dr. Debanjan Guin, National Chemical Laboratory, Pune	University	Student enrichment programme
4	September 18, 2013	“Investigations of Graphene, Noble Metal Nanoparticles and Synthesis of Nanoporous Transparent Conducting Oxide (TCO)" by Dr. Barun Das, Department of Chemistry & Biochemistry, Arizona State University	University	Student enrichment programme
5	September 25, 2013	"UV-VIS Investigation of beta-Carotene and Morin in Presence of AOT/Ethanol System" by Dr. Ajaya Bhattarai, Faculty of Chemistry, University of Warsaw, Poland	University	Student enrichment programme
6	March 20, 2014	"Many Faces of Electrochemistry" by Dr. Amit Paul, IISER, Pune	University	Student enrichment programme
7	April 2014	Chemiquiz Seminar	University	Student enrichment programme
8	April 2014	Prof. J. K. Ray, IIT Kharagpur	University	Student enrichment programme
9	April 2014	Prof. Debshankar Ray, Indian Association for the Cultivation of Science, Kolkata	University	Student enrichment programme
10	April 2014	Dr. Abhishek De, Indian Association for the Cultivation of Science, Kolkata	University	Student enrichment programme
11	July 24, 2014	One-day Seminar on Trends in Surface Science & Related Areas	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar

Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/National level) (student enrichment programme)
12	July 24, 2014	"Surface chemistry: Principles and uses" by Prof. Animesh K. Rakshit, Indian Society for the Surface Science & Technology, Kolkata	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
13	July 24, 2014	"Energy Harvesting Supramolecular Hydrogels" by Prof. Arun K. Nandi, Indian Association for the Cultivation of Science	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
14	July 24, 2014	"Dye Wastewater Treatment by Adsorbilization and Advanced Oxidation Processes Mediated by Nanoparticles" by Prof. Anjali Pal, Department of Civil Engineering Indian Institute of Technology Kharagpur	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
15	July 24, 2014	"A Macroproblem that gets Initiated by Microadherence" by Dr. Suparna Dutta Sinha, Department of Physics Jadavpur University, Kolkata	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
16	July 24, 2014	"Measuring Stability of Emulsion/Suspension/Dispersion using Multiple Light Scattering" by Mr. Surendra Khurana, Orbit Research Associated Pvt. Ltd., New Delhi	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
17	July 24, 2014	"Physicochemical Investigations on Vesicles Comprising Soylecithin and Ion Pair Amphiphile: An innovative media for Drug Delivery" by Mr. Pritam Guha, Department of Chemistry, University of North Bengal, Darjeeling	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
18	July 24, 2014	"Soft Chemical Synthesis of Nickel Oxalate and Conversion to NiO, and Evaluation of its Photocatalytic and Antimicrobial Activities" by Mr. Soumyadipta Rakshit, Department of Chemistry, Jadavpur University, Kolkata	University and the Indian Society for Surface Science & Technology, Kolkata	State Level Seminar
19	November 20, 2014	Indo-French Centre for the Promotion of Advanced Research (CEFIPRA) Lecture	University and CEFIPRA	Seminar
20	November 20, 2014	"Chemical Biology in Action: The Fluidity of Cell Membranes and Life Matters. A Vision by Nuclear magnetic Resonance" by Prof. Eric Joel Duforc, CNRS-Universite Bordeaux	University and CEFIPRA	Seminar
21	November 20, 2014	"The Art of Supramolecular Synthesis Towards Functional Materials" by Prof. A. Ajayaghosh, NIIST, CSIR, Trivandrum	University and CEFIFRA	Seminar

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Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/National level) (student enrichment programme)
22	February 12, 2015	"From Physical Organic to Materials Chemistry: A Small Tour" by Dr. Anandarup Goswami, Department of Chemistry & Chemical Biology, Rutgers University, USA	University	Student enrichment programme
23	February 27, 2015	"Shape Control in Semiconductor Nanocrystals, : Synthesis, Characterisation and Device Fabrication" by Dr. Nimai Mishra, Department of Chemistry, Los Alamos National Lab, Los Alamos, NM, USA	University	Student enrichment programme
24	March 17-18, 2015	Chemiquiz Seminar	University	Student enrichment programme
25	March 17, 2015	"Light, Molecule and Chemistry" by Prof. Tapas Chakraborty, Department of Physical Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata	University	Student enrichment programme
26	March 17, 2015	"Natural Product-inspired Chemistry of Phenolics" by Prof. Dipak Ranjan Mal, Department of Chemistry, Indian Institute of Technology Kharagpur	University	Student enrichment programme
27	March 17, 2015	"Dioxygen Activation and Oxyfunctionalization of C-H and C=C Bonds by Biomimetic Iron Complexes" by Dr. Tapan K. Paine, Department of Inorganic Chemistry, Indian Association for the Cultivation of Sciences, Jadavpur, Kolkata	University	Student enrichment programme
28	March 17, 2015	"Immunomodulatory Role of a Tri-terpenoid Compound Against Leishmaniasis (Kala-Azar)" by Prof. Subrata Majumdar, Department of Molecular Medicine, Bose Institute, Kolkata	University	Student enrichment programme
29	September 10, 2015	"Journey to the Wonderland" by Mr. Mriganka Sekhar Biswas, Scientist B, Centre for Climate Change Research, Indian Institute of Meteorology, Pune	University	Student enrichment programme
30	December 23, 2015	Chemiquiz Seminar	University	Student enrichment programme
31	December 23, 2015	"Exploring structural aspects of protein, interaction of protein with other molecules and imaging technique using emission spectroscopy" by Prof. Sanjib Ghosh, Emeritus Scientist, Presidency University	University	Student enrichment programme

Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/National level) (student enrichment programme)
32	December 23, 2015	“Anion Recognition and Its Significance in Health & Environmental Issues” by Prof. Pradyut Ghosh, Indian Association for the Cultivation of Science, Kolkata	University	Student enrichment programme
33	December 23, 2015	“Organic Synthesis with Organosilanes” by Prof. Tarun Sarkar, IIT Kharagpur	University	Student enrichment programme
34	December 23, 2015	“New insights into the chemistry of carbon nanotubes, graphene oxide (GO) and BN-nanotubes” by Prof. Tapas Kar, Utah State University, USA	University	Student enrichment programme

Annexure 5

List of Doctoral, Post-doctoral Students and Research Associates (2011-15)

Sl. No.	Name	Designation
1.	Dhiman Ray	SRF-DST
2.	Dr. Satyajit Mandal	UGC-DS Kothari Postdoctoral Fellow
3.	Dr. Khokan Samanta	Ph.D. Awarded
4.	Dr. Prasanta Patra	Ph.D. Awarded
5.	Moumita Rakshit	Ph.D. Thesis submitted
6.	Rumpa Hazra	Part-time Research Scholar
7.	Faruk H. Saik	Part-time Research Scholar
8.	Tuhin B. Maiti	Part-time Research Scholar
9.	Aparna Sarkar	Part-Time Research Scholar
10.	Dr. Pinki Saha Sardar	RA upto 2013, DST-FAST Track Research Scientist from January, 2014 - August 2014.
11.	Dr. Manini Mukherjee	Ph.D. Awarded
12.	Swarna kamal Samanta	Ph.D. Thesis submitted
13.	Shyamal Kr. Ghorai	Ph.D. Thesis submitted
14.	Sugata Samanta	SRF-CSIR
15.	Sagarika Sanyal	Part-time Research Scholar
16.	Moumita Mukherjee	DST-Project Assistant

Sl. No.	Name	Designation
17.	Anirban Pal	Part-time Research Scholar
18.	Dr. Krisna Biswas	Ph.D. Awarded
19.	Dr. Kousik Gupta	Ph.D. Awarded
20.	Dr. Tina De	Ph.D. Awarded
21.	Dr. Sushanta Debnath	Ph.D. Awarded
22.	Dr. Harisankar Biswas	Ph.D. Awarded
23.	Dr. Sayan Bhattacharyya	Ph.D. Awarded
24.	Dr. Debobrata Nandi	Ph.D. Awarded
25.	Indranil Saha	Part-time Research Scholar
26.	Abir Ghosh	Part-time Research Scholar
27.	Pampa Bhattacharyya	Part-time Research Scholar
28.	Sarat Kanrar	Project Assistant-DST
29.	Dr. Anisur Rahaman Molla	Ph.D. Awarded
30.	Dr. Pritha Mandal	Ph.D. Awarded
31.	Dr. Goutam Ghosh	Ph.D. Awarded
32.	Dr. Debasis Sen	Ph.D. Awarded
33.	Ipsita Halder	Thesis submitted
34.	Dr. Partha Sinha Ray	Ph.D. Awarded
35.	Ananya Mondal	Part-time Research Scholar
36.	Dr. Debdulal Maity	Ph.D. Awarded
37.	Dr. Dolon Sengupta	Ph.D. Awarded
38.	Dr. Pradyut Basak	Ph.D. Awarded
39.	Prosenjit Saha	JRF-CSIR
40.	Dinesh Pyne	Part-time Research Scholar
41.	Debajyoti Debnath	JRF-DST
42.	Tanwi Debnath	Part-time Research Scholar
43.	Pallabi Acharya	Part-time Research Scholar
44.	Udayan Basak	DST-Project Assistant
45.	Tapas Ghosh	JRF-UGC
46.	Nipa Nayek	Part-time Research Scholar
47.	Shubhajit Dhara	Project Assistant-DST
48.	Ankan Goswam	Project Assistant-DST
49.	Biswarup Paul	Part-time Research Scholar
50.	Priti Sengupta	Project Assistant-DST

Annexure 6

Seminars / Workshops attended by teachers of the Department (2011-15)

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
1	Dr. Adity Bose	“Acharya Prafulla Chandra Ray Memorial Symposium on Chemistry today (2011) and celebration of the international Year of Chemistry”	August 2-3, 2011	Indian Chemical Society, University College of Science and Technology, Kolkata	National	Participation
2	Dr. Adity Bose	“National Symposium on recent trends in Chemistry”	January 3-7, 2013	The Indian Science Congress”	National	Participation
3	Dr. Adity Bose	Current Trends in Chemistry	December 23-24, 2013	Sripat Singh College, Jiaganj, Murshidabad	National	Oral Presentation
4	Dr. Adity Bose	International Symposium on Light in Chemistry, Materials and Biology	February 24-25, 2014	Indian Institute of Kharagpur, Kharagpur	International	Oral Presentation
5	Dr. Adity Bose	Trends in Surface Science and Related Areas	July 24, 2014	Department of Chemistry, Presidency University	National	Participation
6	Dr. Adity Bose	International Symposium on Advances in spectroscopy and ultrafast dynamics	December 12-14, 2014	IACS, Kolkata	International	Poster Presentation
7	Dr. Adity Bose	International Symposium on Polymer Science and Technology	January 23-27, 2015	IACS, Kolkata	International	Poster Presentation
8	Dr. Adity Bose	The 14th International Spin Chemistry Meeting	March 15-20, 2015	SINP, Kolkata	International	Poster Presentation
9	Dr. Adity Bose	National Symposium on recent advances in Chemistry and Industry	July 31-August 1, 2015	Indian Chemical Society, University College of Science and Technology, Kolkata	National	Poster Presentation
10	Dr. Anjoy Majhi	UGC-sponsored two day National seminar on Current Trends in Chemistry	December 23-24, 2013	Department of Chemistry, Sripat Singh College, Jiaganj, Murshidabad	National	Oral Presentation
11	Dr. Anjoy Majhi	16th CRSI National Symposium in Chemistry	February 7-9, 2014	Indian Institute of Technology Bombay, Powai, Mumbai	National	Participation

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
12	Dr. Anjoy Majhi	2nd International Conference on Emerging Trends in Chemical and Pharmaceutical Sciences	October 15 - 17, 2014	CSIR-Indian Institute of Chemical Technology, Hyderabad	International	Poster Presentation
13	Dr. Anjoy Majhi	National Symposium on Recent Advances in Chemistry & industry 2015	July 31- Aug, 01 2015	Indian Chemical Society, Kolkata	National	Participation
14	Dr. Anjoy Majhi	National Conference on "New Frontiers in Chemistry - From Fundamentals to Applications" (NFCFA2015)	December 18-19, 2015	Department of Chemistry, BITS Pilani KK Birla Goa Campus, Goa	National	Poster Presentation
15	Dr. Arnab Halder	2nd International conference on emerging trends in chemical and pharmaceutical sciences – 2014	October 15- 17, 2014	Science Tech Foundation and CSIR-IICT at CSIR – IICT Campus, Hyderabad	International	Poster Presentation
16	Dr. Arnab Halder	Two-day international seminar on ground water: issues & challenges of the 21st century	December 29-30, 2014	Sripat Singh College, Murshidabad, Berhampore	International	Poster Presentation
17	Dr. Arnab Halder	National Symposium on Radiation and Photochemistry	March 9 - 11, 2015	Indian Society for Radiation & Photochemical Sciences and Department of Chemistry, IIT, Kanpur at IIT, Kanpur	National	Poster Presentation
18	Dr. Arnab Halder	Short-term QIP course on Fluorescence Spectroscopy and its Application	November 23 - 27, 2015	Department of Chemistry, Indian Institute of Technology Kanpur at IIT, Kanpur	National	Resource Person
19	Prof. Bijan Das	Regional Chemistry Seminar-2011	May 7 - 8, 2011	Nepal Chemical Society, Biratnagar, Nepal		Invited Speaker
20	Prof. Bijan Das	Fifteenth National Conference on Surfactants, Emulsions and Biocolloids - 2011	December 27 - 29, 2011	Tripura University Tripura	National	Invited Speaker
21	Prof. Bijan Das	14th Chemical Research Society of India (CRSI) Symposium in Chemistry	February 3-5, 2012	Thiru vananthapuram	National	Poster Presentation
22	Prof. Bijan Das	International Symposium on Molecular Organization and Complexity: A Chemical Perspective	February 06-08, 2013	University of Calcutta, Kolkata	International	Poster Presentation
23	Prof. Bijan Das	16th Chemical Research Society of India (CRSI) Symposium in Chemistry	February 7-9, 2014	IIT Bombay	National	Poster Presentation

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
24	Prof. Bijan Das	International Symposium on Polymer Science and Technology (MACRO 2015)	January 23-26, 2015	Indian Association for the Cultivation of Science, Kolkata	International	Invited Speaker
25	Prof. Bijan Das	Twenty Second West Bengal State Science & Technology Congress 2015	February 28-March 01, 2015	University of North Bengal, Darjeeling	State Level	Invited Speaker
26	Prof. Bijan Das	Seminar on Trends in Surface Science & Related Areas,	July 25, 2015	West Bengal State University, Barasat	National	Invited Speaker
27	Prof. Bijan Das	Seventeenth National Conference on Surfactants, Emulsions and Biocolloids	November 04-06, 2015	Pt. Ravishankar Shukla University, Raipur	National	Invited Speaker
28	Dr. Biplab Biswas	International Conference on Structural Chemistry of Molecules and Materials (SCOMM 14)	Nov 20- Dec 2, 2014	Royal Society of Chemistry, University of Calcutta, Jadavpur University and IISER-Kolkata	International	Participation
29	Dr. Dhrubo Prasad Chatterjee	National Seminar on Chemistry for a Better World: Celebrating The International Year of Chemistry	March 29, 2011	Dept. of Chemistry, University of Kalyani,(U.G.C. sponsored)	National	Participant
30	Dr. Dhrubo Prasad Chatterjee	Acharya Prafulla Chandra Ray Memorial Symposium on Chemistry Today (2011) and Celebration of the International Year of Chemistry	August 02-03, 2011	Indian Chemical Society, University College of Science, Rajabazar	National	Participant
31	Dr. Dhrubo Prasad Chatterjee	International Seminar - 3rd FAPS Polymer Congress and Macro 2013	May 15-18, 2013	IISc, Bangalore	International	Poster presentation
32	Dr. Dhrubo Prasad Chatterjee	Two-Day National Seminar on Current Trends in Chemistry	December 23-24, 2013	Dept. of Chemistry, Sripat Singh College, Jiaganj, Murshidabad (U.G.C. sponsored)	National	Oral Presentation
33	Dr. Dhrubo Prasad Chatterjee	Macro-2015, an International conference on polymer for advance technologies, January 2015	January 24-27, 2015	IACS, Jadavpur, Kolkata	international	Oral Presentation
34	Prof. Gandhi Kumar Kar	FICS 2012	December 2-4, 2012	Department of Chemistry, I.I.T Guwaha	National	Participation

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
35	Prof. Gandhi Kumar Kar	Current Trends in Synthetic Organic chemistry	January 13, 2015	Department of Chemistry, Indian Institute of Technology, Kharagpur	National	Invited lecture
36	Dr. Koena Ghosh	Advances in Chemistry and their Biological and Industrial Relevance (ACBIR-2014)	January, 10 -11, 2014	Department of Chemistry, National Institute of Technology Rourkela, Rourkela	National	Poster Presentation
37	Dr. Koena Ghosh	16th CRSI-RSC National Symposium in Chemistry (NSC-16)	February, 6-9, 2014	Department of Chemistry, Indian Institute of Technology Bombay, Mumbai under the auspices of the Chemical Research Society of India	National	Attended
38	Dr. Koena Ghosh	Trends in Surface Science and Related Areas (TSSRA-2014)	July 24, 2014	Jointly organized by: Department of Chemistry Presidency University, Kolkata & Indian Society for Surface Science and Technology, Kolkata	National	Participation
39	Dr. Koena Ghosh	2nd International Conference on Emerging Trends in Chemical and Pharmaceutical Sciences and Pharma Chem Expo -2014	October 15-17, 2014	CSIR-Indian Institute of Chemical Technology, Hyderabad	International	Oral Presentation
40	Dr. Koena Ghosh	National Symposium on Perspective and Challenges in Organic Chemistry (PCOC-14)	October 18, 2014	Organic Chemistry Indian Association for the Cultivation of Science (IACS), Jadavpur, Kolkata	National	Participation
41	Dr. Koena Ghosh	National Symposium on Recent Trends and Perspectives in Chemistry (RTPC 2015)	January 23-24, 2014	Department of Chemistry, National Institute of Technology, Sikkim	National	Oral Presentation
42	Dr. Koena Ghosh	National Symposium on Recent Advances in Chemistry & industry 2015	July 31 – August 1, 2015	Indian Chemical Society, Kolkata	National	Participation
43	Dr. Koena Ghosh	National Conference on "New Frontiers in Chemistry - From Fundamentals to Applications" NFCFA2015)	18th -19th December, 2015	Department of Chemistry, BITS Pilani KK Birla Goa Campus, Goa	National	Poster Presentation

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
44	Dr. Krishna Pada Bhabak	Two-Day National Seminar on Current Trends in Chemistry	December 23-24, 2013	Dept. of Chemistry, Sripat Singh College, Jiaganj, Murshidabad (U.G.C. sponsored)	National	Oral Presentation
45	Dr. Krishna Pada Bhabak	16th CRSI National Symposium in Chemistry	February, 6-9, 2014	Department of Chemistry, Indian Institute of Technology Bombay, Mumbai under the auspices of the Chemical Research Society of India	National	Participation
46	Dr. Krishna Pada Bhabak	2nd International Symposium on Emerging Trends in Chemical and Pharmaceutical Sciences and Pharma Chem Expo-2014	October 15-17, 2014	Indian Institute of Chemical Technology (IICT), Hyderabad	International	Participation
47	Dr. Krishna Pada Bhabak	Networking-Cum-Discussion Meet" for existing INSPIRE Faculty Awardees	20-21 March, 2015.	Tezpur University, Tezpur, Assam	National	Poster Presentation
48	Dr. Sasikumar Palani	16th CRSI National Symposium in Chemistry	07-09 Feb 2014	RSC and IIT Bombay	National	Participation
49	Dr. Sasikumar Palani	Recent Developments in Chemical Science & Technology: Young ScientistsTopic: B-N Incorporated π -conjugated Systems	15,16 Mar 2014	NIT Rourkela	National	Invited Speaker
50	Dr. Sasikumar Palani	International Conference on Structural Chemistry on Molecules and Materials	30 Nov – 2nd Dec 2014	RSC, Calcutta University, NISER Kolkata and Jadavpur University	International	Participation
51	Dr. Sasikumar Palani	Trends in Surface Science and Related Areas	July 24, 2014	Department of Chemistry, Presidency University	National	Participation
52	Dr. Pulak Ghosh	Symposium on quantum simulation	September 2-3, 2013.	Dept of Phys., IISc, Bangalore, India	International	Invited Speaker
53	Dr. Pulak Ghosh	ICTS Discussion Meeting on Frontiers in Light-Matter Interactions	December 19-22, 2014.	IACS, Kolkata	International	Invited Speaker
54	Prof. Sanjib Bagchi	National Conference on Frontiers in Chemistry	2011	Department of Chemistry, Burdwan University	National	Chair person

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
55	Prof. Sanjib Bagchi	Inspire (DST) Science Camp	2012	Rastraguru Surendranath College, Barrackpore	National	Resource person
56	Prof. Sanjib Bagchi	Inspire (DST) Science Camp	Sept 2013	JBNSTS	National	Resource person
57	Prof. Sanjib Bagchi	Seminar on Interdisci-plinary Sciences	Jan 2015	Nistarini College, Purulia		Resource person
58	Prof. Sanjib Bagchi	DST INSPIRE Internship Programme	Sept 2015	Burdwan University	National	Resource person
59	Prof. Sanjib Ghosh	Trombay Symposium on Radiation and Photochemistry	Jan, 2012	BARC, Mumbai	International	Invited Speaker
60	Prof. Sanjib Ghosh	Indian Photobiology Society	December 12 – 14, 2013	Indian Photobiology Society & Dept. of Chemistry, Jadavpur University	National	Invited Speaker
61	Prof. Sanjib Ghosh	Advances in Spectroscopy and Ultrafast Dynamics	December 12 – 14, 2014	IACS, Kolkata	International	Chair
62	Dr. Uday Chand Ghosh	International Conference on Biomaterials and implants	July 21- 23,2011	Central Glass and Ceramic Research Institute (CSIR), Kolkata	International	Invited Speaker
63	Dr. Uday Chand Ghosh	India-Australia International Workshop on Nanotechnology in Materials and Energy Application	December 28-31, 2011	Jadavpur University, Kolkata	International	Invited Speaker
64	Dr. Uday Chand Ghosh	National Symposium on Recent Advances in Chemistry & Industry	August 01 & 02, 2014	The Indian Chemical Soceity, Calcutta University	National	Participation
65	Dr. Uday Chand Ghosh	International Seminar on Groundwater: Issues & Challenges of the 21st Century	December 29-30, 2014	Siripat Singh College, Jiaganj, Murshidabad, West Bengal, India	National	Invited lecture
66	Dr. Uday Chand Ghosh	One-Day Workshop on Incidence of High Arsenic in Ground Water in West Bengal and Its Remedial Measures	March 24 2015	Central Ground Water Board Authority and Central Ground Water Board, Eastern Region Kolkata	National	Participation

Annexure 7

List of Conference Publications (2011-15)

2012:

Samanta, K. and **Kar, G. K.**, 2012, Synthesis of some angularly fused novel “U” Shaped tetracyclic furoquinones simulating ABCD rings of Isotanshinone-II. Proceedings of the National conference in Chemical Science-(FICS), Indian Institute of Technology, Guwahati, Guwahati, Assam.

2014:

Rakshit, M., **Kar, G. K.** and Chakrabarty, M., (2014), Application of tandem Sonogashira-CuAAC reactions for the synthesis of a series of novel annulated 1,2,3-triazoles. Proceedings of the National Symposium on Recent Advances in Chemistry and Industry, Contributory paper (Award) - 22, Page-51; Indian Chemical Society.

2015:

Sarkar, A., Samanta, K., Das, R. and **Kar, G. K.**, (2015), Model studies towards the synthesis of Isotanshinone-II: General method for synthesis of some angularly fused novel “U” shaped furoquinones simulating ABCD rings of Isotanshinone-II. Proceedings of the 10th Symposium on Acharya Prafulla Chandra Ray and Chemistry Today, (August), Indian Chemical Society, University College of Science and Technology, Kolkata.

Annexure 8

Summer Projects conducted for students from other institutes & for own students (2011-15)

Sr. No.	Name of student	Year	University/Institute
1	Abhishek Brata Ghosh	2012	Presidency University
2	Shreya Sinha	2013	Presidency University
3	Rajib Barman	2013	Presidency University
4	Suvajit Bera	2014	IIT Roorkee
5	Pooja Sarkar	2014	IIT Roorkee
6	Raju Biswas	2014	IIT Roorkee
7	Saileswar Nayek	2014	Jadavpur University
8	Uttara Biswas	2014	Jadavpur University
9	Sunny Goon	2014	WB State University
10	Ankan Goswami	2014	WB State University
11	Nithun Ranjan Pandit	2014	WB State University
12	Arnab Chatterjee	2014	VIT, Tamilnadu

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Sr. No.	Name of student	Year	University/Institute
13	Avijit Mondal	2014	WB State University
14	Agniva Dutta	2014	WB State University
15	Nandita Rani Das	2014	Calcutta University
16	Argha Dutta	2014	Presidency University
17	Debolina Chakraborti	2014	Presidency University
18	Arnab Ghatak	2014	Presidency University
19	Ishita Bhattacharjee	2014	Presidency University
20	Priya Das	2014	Presidency University
21	Kuheli Dutta	2014	Presidency University
22	Souvik Ghosal	2014	Presidency University
23	Rajarshi Bhattacharya	2014	Presidency University
24	Sanghamitra Basak	2014	Presidency University
25	Soumendra Jantua	2014	Presidency University
26	Srijon Ghosh	2014	Presidency University
27	Swarup Majhi	2014	Presidency University
28	Soumyadip Banerjee	2014	Presidency University
29	Sutirtha Kamal Sen	2014	Presidency University
30	Subhajit De	2014	Presidency University
31	Shuvendu Ghosh	2015	IIT Guwahati
32	Mihir Manna	2015	IIT Guwahati
33	Joy Banerjee	2015	WB State University
34	Sourabh Bera	2015	NIT, Rourkela
35	Debottam Dasgupta	2015	WB State University
36	Shibam Chakraborty	2015	WB State University
37	Tirthankar Mandal	2015	WB State University
38	Abhisek Pal	2015	WB State University
39	Koushik Mondal	2015	IIT, Guwahati
40	Sandip Sadhukhan	2015	IIT, Kanpur
41	Rahul Karmakar	2015	IIT, Kharagpur
42	Basab Das	2015	Presidency University
43	Sandip Banerjee	2015	Presidency University
44	Dibyangana Parbat	2015	Presidency University

Sr. No.	Name of student	Year	University/Institute
45	Prioti Choudhury Purba	2015	Presidency University
46	Subhajit Chakraborty	2015	Presidency University
47	Aritra Das	2015	Presidency University
48	Saptarshi Datta	2015	Presidency University
49	Achintya Mondal	2015	Presidency University
50	Narugopal Malo	2015	Presidency University
51	Soumabrata Majumder	2015	Presidency University
52	Shrabana Sarkar	2015	Presidency University

- **A brief history of the Department**

The pre-eminence of the Chemistry Department of Presidency College is due to Sir Alexander Pedler, FRS, who published the first Research article in Chemistry from India. In 1886, postgraduate teaching was introduced for the first time. In 1889, Acharya Prafulla Chandra Ray, an alumnus, joined the college after returning from Edinburgh. He set up not only a new and novel line in teaching chemistry but also paved the way for active and devoted research in the field of Chemistry. In 1896, Acharya P.C. Ray published his first important paper on the preparation of mercurous nitrite. The department has produced many illustrious chemists. Among them are Prof. Priyada Ranjan Ray, Prof. Pulin Behari Sarkar, Prof. Jogendra Chandra Bardhan, Prof. Suresh Chandra Sengupta, Prof. Jnanendra Nath Mukherjee, Prof. Mihir Choudhury to name a few. With its glorious heritage and long history as a department of the erstwhile Presidency College, the Department of Chemistry started functioning as one of the leading and vibrant departments of the institution when the Legislature of West Bengal conferred the institution the status of a University on July 7, 2010. With the constant effort of the members of the faculty the department is striving to maintain its long-standing reputation in teaching and research.

Evaluative Report of the Department: Economics

1. Name of the Department : Economics

2. Year of establishment : 1908

3. Is the Department part of a School/Faculty of the university? :

Faculty of Natural and Mathematical Sciences

4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) :

- UG : B.Sc. Hons. in Economics,
- M.Sc. in Applied Economics,
- GenEd courses in Economics for other departments and
- Ph.D. Science (Economics)

5. Interdisciplinary programmes and departments involved

- a. UG General Education (GenED) Programme: following modules are offered to students with Hons in other disciplines: Principles of Economics, The Indian Economy, Development Economics, Basics of Environmental Economics, Elements of Financial Economics .
- b. Big Data Analytics Programme (with Mathematics and Statistics Departments)

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

- UG Student Exchange Programme with Sciences Po, Paris in Economics.
- Informal, non-credit academic internships at other research institutions and in the banking and data analytics industries. Approximately 50% PG students and 25% UG students undertake such exercise.

7. Details of programmes discontinued, if any, with reasons : None

8. Examination System: Annual/Semester/Trimester/Choice Based Credit System

- Semester system with Choice Based Credit System (CBCS) followed in GENED, B.Sc. (Economics Major) and M.Sc. (Applied Economics).

9. Participation of the department in the courses offered by other departments: NA

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	7	0	0
Associate Professors	0	NA	NA
Asst. Professors	8	6	6
Others	0	0	0

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. studentS guided foR the last 4 Years
Mousumi Dutta	PhD	Associate Professor	Applied Econometrics	19	PhD.- 2,
Gagari Chakraborty	PhD	Assistant Professor	Financial Economics	14	PhD.- 4,
Pravesh Tamang	MA	Assistant Professor	Environmental Economics	6	0
Prithviraj Guha	PhD	Assistant Professor	Development Economics, Political Economics	2	0
Saswatee Mukherjee	PhD	Assistant Professor	Game theory, Microfinance	2	0
Jayeeta Deshmukh	MA	Assistant Professor	Information Theory, Social and Economic Network Analysis, Informal Legal Institutions	2	0

12. List of Senior Visiting Fellows, adjunct faculty, emeritus professors :

- Dr. Pulak Ghosh, Infosys Chair Professor in Economics

13. Percentage of classes taken by temporary faculty – programme-wise information :

UG: 25 per cent

PG: 45 per cent

14. Programme-wise Student Teacher Ratio :

- UG - 120:6
- PG - 50:6

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual :

a. Academic Support Staff (technical) : Sanctioned- , Filled - 1 , Actual - 1

b. Administrative Staff : Sanctioned- , Filled - 3, Actual - 3

16. Research thrust areas as recognized by major funding agencies :

- Econometrics, Demography & Health Economics, Financial Economics and Big Data

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. (full List in annexure)

Sl	Nature of projects	No. of projects	Total amount sanctioned (Rs. lakh)
1	National	3	18.7
2	International	2	44.3

Details are given in Annexure, along with completed projects of last 4 years.

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration

1. **Mousumi Dutta:** ‘Examining the Foetal Origin Hypothesis: Does Ramadan fasting of the mother affect long term physical development of children?’, in collaboration with Humanities & Social Sciences Department, Indian Institute of Technology Kharagpur and Anthropology Unit, Indian Statistical Institute, Kolkata (2014-2016).
2. **Mousumi Dutta:** ‘Restrictive or Individualized Goal-Directed Fluid Replacement Strategy in Ovarian Cancer Cytoreductive Surgery– A prospective randomized controlled trial’, in collaboration with Tata Medical Centre, Kolkata and Humanities & Social Sciences Department, Indian Institute of Technology Kharagpur (2016-2017): Rs.80,000
3. **Mousumi Dutta:** “Cost effectiveness of primary debulking vis-a-vis interval debulking surgery in advanced ovarian cancer’, in collaboration with Centre for Studies in Regional Development, Jawaharlal Nehru University (New Delhi), All India Institute for Medical Sciences (AIIMS, New Delhi), Rajiv Gandhi Cancer Institute and Research Centre (New Delhi) Tata Medical Centre (Kolkata) and Chittaranjan National Cancer Institute (Kolkata) Indian Institute of Technology (Kharagpur) (2016-2018)

b) International collaboration: Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- Department has applied for funding to set up CENTER FOR BIG DATA ANALYTICS AND INNOVATION under Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Ministry of Human Resources Development, Government of India, jointly with Statistics and Mathematics departments

20. Research facility / centre with

- state recognition : Centre for Economic Studies
- national recognition : Centre for Economic Studies
- international recognition : NO

21. Special research laboratories sponsored by / created by industry or corporate bodies :

- Proposal to establish a CENTER FOR BIG DATA ANALYTICS AND INNOVATION in collaboration with Mathematics & Statistical departments

22. Publications: (full List in annexure)

- Number of papers published in peer reviewed journals (national / international) : 49
- Monographs / Books with ISBN with details of publishers: 5
- Chapters in Books : 5
- Edited Books : Nil
- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) All are listed
- Citation Index – range / average : Range 1 to 15
- SNIP
- SJR

- Impact Factor – range / average Range 0.622 to 4.047
- h-index

23. Details of patents and income generated : NA

24. Areas of consultancy and income generated :

- Campus recruitment takes place on regular basis. Students are recruited mostly in IT and related Industries.
- The department has also started Entrepreneurship Development Programme from January 2016 where there is an immense scope of interaction with entrepreneurs and industrialists

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad : NO

26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)
- Prof. Pulak Ghosh

National-level Committee

1. Member, Project Monitoring Group of Cabinet Committee (Prime Minister’s Office), Developing Big data analytics for Potential Use of Geo-Spatial Technology for tracking Publicly funded Projects
2. Member, Financial Inclusion Committee, Reserve Bank of India
3. Member Analytics Advisory group (National Payment Corporation of India, 2015-Present
4. Member Advisory group- Big Data Analytics, State Bank of India (Corporate Office)
5. Member Advisory group- Big Data Analytics, Tata Group
6. Member, 73rd National Sample Survey, 2014to present. Surveying unincorporated non-agricultural enterprises in manufacturing, trade and other services (excluding construction), Ministry of Statistics & Programme Implementation; Govt. of India

International-level Committee

1. Member of the UN Secretary-General’s Big Data Privacy Advisory Group, United Nation (UN) Big Data Group; UN Global Pulse, 2014
2. Advisor of Knowledge Commission, UNESCO-MGEIP
3. External Advisory Board Member, 2014to present, Institute for Economic Analysis of Decision-making (InstEAD) The University of Sheffield
4. Advisory Board Member, Prorelevant, Jan-2014 to present (U.S. Based Market Research Firm)

Editorial Board

1. Guest Editor of Special Issue for the Journal Probability and Statistics: “Probability and Statistics with Applications in Finance and Economics”
2. Editor of Special Issue on Big data and its use in Social Value Creation, Journal of the Royal Statistical Society: Series A (Call for papers are yet to come)
3. Associate Editor, (2015 |2017), Biometrics
4. Associate Editor, (2014 |2018), Journal of the Royal Statistical Society: Series A

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5. Associate Editor, (2009 |2013), Journal of the American Statistical Association
6. Co- Editor, (2013 | Present), Electronic Commerce Research and Applications
7. Associate Editor, (2008 |2014), Journal of Statistics and Applications
8. Associate Editor, (2009 | 2012), Journal of Applied Probability and Statistics

- Dr. Gagari Chakrabarty

1. Technical Editor of The International Journal of Applied Economics and Finance, Journal of Applied Sciences, Research Journal of Business Management, Asian Journal of Scientific Research

- Dr. Saswatee Mukherjee

1. Member of the Advisory and Editorial Board of Global Business Research Journal.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- Department has organized 12 Capacity Building workshops in the last 4 years. List is given below:

1. Capacity Building Workshop on Econometrics & Finance, 14-19 January 2016.
2. Entrepreneurship Development Workshop on 6,7 & 9 January 2016 in collaboration with MSME Department, Govt. of West Bengal and partially funded by Sadhukha Visiting Professor in Industrial Economics Endowment
3. Workshop on “Discrete choice models and ARCH/GARCH models in Risk Modelling”, 19-21 March 2015, Subrata Sarkar, IGIDR
4. Workshop on “Econometric Analysis using R and SPSS “, 21-24 November 2014
5. RBI funded two-day National Level capacity building programme on Financial Economics: November 2012
6. Workshop on ‘Time Series Econometrics’ from 3rd to 5th September; 11th,14th, 18th and 21st September, 2012
7. UCO bank funded Four-day National Level capacity building programme on Financial Economics: December 2011
8. Reserve Bank of India and ICSSR (Eastern Region) funded (Seven days) Capacity Building Workshop on Applied Econometric Analysis: Time Series and Cross Section Analysis, 8-14 September 2011 for faculty, researchers, RBI staff and PG students of Presidency University
9. Workshop on Advanced Topics in Cross Section and Time Series Econometrics - Theories and Applications Part I-II held on 9th and 22nd December, 2010 & 17th -18th February, 2011 at Economics Department, Presidency University
10. Two-phased national level workshop on Advanced Financial Economic Theory and Financial Econometrics, December 2010 - January, 2011

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects :

100 per cent: Compulsory project forms part of curriculum at both UG (6 credits) and PG level (16 credits)

- percentage of students doing projects in collaboration with other universities / industry / institute :

About 70 per cent of PG students do their summer internships in Reserve Bank of India/ State Bank of India / different Universities / analytics firms

29. Awards / recognitions received at the national and international level by

- Faculty

Prof. Pulak Ghosh

- Received Mahalanobis Award for Research in Econometrics-Jan 2016, given by Indian Econometric Society
- Received the National Award for Young Statisticians, Professor C.R. Rao Award in 2015, for significant work in the field of Statistics by the Ministry of Planning and Programme Implementation, Government of India.
- Awarded "Young Scientist Award", 2011; by International Indian Statistical Association, for outstanding contribution in the Statistical Applications.
- Best paper award : India Finance Conference, 2011, Indian Institute of Management Bangalore, 2011.
- Doctoral / post doctoral fellows : NO
- Students : Prizes won in different inter-college competitions.

30. Seminars/ Conferences/Workshops organized and the source of funding (national /international) with details of outstanding participants, if any. (List in annexure)

- Department has organized 30 such events in the past 4 years Among notable invitees were Prof. Amartya Sen, Dr. Raghuram Rajan, Prof. Joseph Stiglitz, Prof. Dilip Mookherjee, Prof. Mukul Majumdar, Prof. Maitreesh Ghatak, Prof. Esther Dufflo, etc.

31. Code of ethics for research followed by the departments :

- In case of primary surveys respondents are informed of purpose of study and their verbal consent is taken. In the case of inter-institute collaborative projects the study is approved by appropriate ethical committee.

32. Student profile programme-wise:

Year	Name of the programme	Application received	selected		Pass Percentage (wrto previous year results)	
			Male	Female	M	F
2015	UG	336	20	6	100%	100%
	PG	87	6	16	100%	100%
2014	UG	748	20	14	100%	100%
	PG	105	15	9	100%	100%
2013	UG	698	20	17	100%	100%
	PG	122	7	16	100%	100%

33. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B. Sc. (Major in Economics)	NA	85	15	0
M. Sc. (Applied Economics)	25	67	8	0

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- About 12 per cent of PG students qualify NET every year. Remaining students join banking and analytics

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sector through campus recruitment, etc. 8-10 per cent also pursue higher studies abroad.

- At the UG level, students mainly pursue Masters programme — 70 per cent in national institutes like ISI Delhi, ISI Kolkata, IGIDR, Delhi School of Economics, JNU, etc., and 10 per cent abroad in France, Germany and UK.
- About 20 per cent of UG students remain in Presidency University

35. Student progression

Student progression	Percentage against enrolled
UG to PG	98
PG to M.Phil.	8
PG to Ph.D.	10
Ph.D. to Post-Doctoral	NA
Employed	3 (% of UG students) + 70 (% of PG students)
• Campus selection	3 (% of UG students + 12 (% of PG students)
• Other than campus recruitment	
Entrepreneurs	Program to encourage entrepreneurship started out of endowment by alumni

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	NA
from other universities within the State	6
from universities from other States from	0
universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period :

One faculty (Dr. Saswatee Mukherjee) has been awarded Ph.D. during period of assessment in December, 2013 from Jadavpur University, Kolkata.

38. Present details of departmental infrastructural facilities with regard to

- Library : Economics & Political Science library unit forms part of Science library
- Internet facilities for staff and students : YES
- Total number of class rooms : 5
- Class rooms with ICT facility : 4
- Students' laboratories : 1
- Research laboratories : 1

39. List of doctoral, post-doctoral students and Research Associates

- from the host institution/university : 0
- from other institutions/universities : 0

40. Number of postgraduate students getting financial assistance from the university. : 1

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. The academic curriculum was extensively revised in 2012 and then in 2014. A Mentor Board comprising faculty from ISI Kolkata and IIMC assisted in the first syllabus revision exercise, inviting experts from Calcutta University, CSSS, ISI Kolkata and IIMC. In the second phase, a Board of Studies with external experts from ISI Kolkata, Calcutta University and IIMC was involved. The revision in the second phase utilised inputs from teachers involved in teaching the curriculum between 2012-2014.

42. Does the department obtain feedback from

a. *faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?*

During syllabus reorganization, feedback was taken from faculty as well as external academic experts

b. *students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?*

We take feedback from students as follows:

1. Centrally administered feedback mechanism from students
2. Teacher-student committee of the department
3. Feedback from guardians through periodic meeting or informal sessions.

c. *alumni and employers on the programmes offered and how does the department utilize the feedback?*

Informal mechanism exists in the form of discussion during their visits to students to improve curriculum, references and corporate placements.

43. List the distinguished alumni of the department (maximum 10) :

Amartya Sen, Sukhamoy Chakrabarty, Bimal Jalan, Abhijit Vinayak Banerjee, Amiya Bagchi, Arjun Sengupta, Amit Bhaduri, Debraj Ray, Maitreesh Ghatak, Pranab Bardhan.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

The Department organizes the following on regular basis:

- lecture series by external experts
- training / capacity building workshops
- seminars and conferences

Nature	2011	2012	2013	2014	2015	2016
Special lectures	0	0	3	3	5	–
Workshops	4	2	0	2	2	3
Seminar	1	2	1	0	2	-
Total	5	4	4	5	9	3

45. List the teaching methods adopted by the faculty for different programmes. :

- Presentations
- Tutorials
- Special lectures by external experts and

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- Training/ capacity building workshops

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Continuous assessment and end semester examination
- Tutorials,
- Special lectures by external experts and seminars
- Training/ capacity building workshops
- Compulsory project papers at both UG and PG level

47. Highlight the participation of students and faculty in extension activities.

- Students serve as volunteers and assist faculty in organizing departmental events, particularly in publicizing such events.
- Recently, students established a Presidency University Young Entrepreneurship Society. This society is actively involved in the organization of an Entrepreneurial Development Workshop in January 2016.
- Students regularly and actively participate in debating: Sharon Banerjee has participated in the International debate organized by Calcutta Debating Society and The Telegraph, 13 December 2015.
- Many of the undergraduate and postgraduate students of the Economics Department undertake their compulsory project work on social themes like malnutrition, gender disparities in education, gender violence, evaluation of the Mid Day Meal program, corruption and social sector spendings, etc.
- Pranjal Rawat, student of Economics Department, had undertaken a study of urban slum dwellers in 2014. His study examined on how the economically deprived lead their lives and tried to establish a link between crime and destitution. Pranjal Rawat is also involved with a blog, Youth ki awaaz, (<http://www.youthkiawaaz.com/>) highlighting social issues.
- Noyonika Bose, student of Economics Department, has volunteered with Child Rights and You (CRY) in 2014. As part of her duties, she conducted a survey of schools in Calcutta slums to find out whether they follow the guidelines of the Right To Education (RTE) Act. She also carried out health assessments of children and organise sessions to monitor a child's progress in school.
- Students of the 2013-16 batches, Economics Department, have undertaken a study of disaster management in the context of Cyclone Aila in the Sunderbans.
- Arka Banerjee, Arindam Chakraborty and Shuchi Tripathi of 2013-16 batch have worked with a start up in Himachal known as Himalayan Ecotourism during the month of June, 2015. It was social work and an unpaid internship which focussed on uplifting the status of women in that region by teaching them the recipes of local food items like pickle and jam and other things like soaps etc and using wool to create felt products. Their work included researching and analysing the demand for such products and identifying the target population.
- Vidhi Agarwal of 2013-16 batch is a volunteer at CRY, since February, 2015.
- Mohini Chatterjee of 2013-16 batch is a volunteer at a child education organisation called Make A Difference (MAD) since October 2014
- Rangoli Jain: Presented paper "Wage Gap in Developing Countries: A Theoretical Analysis" at 34th Annual Conference (National Level) of Bangiya Arthaniti Parishad (BENGAL ECONOMIC ASSOCIATION), 2014.

- Rangoli Jain: Stood first in 'Keynes Apprentice' (Paper Presentation) held during Confluence, organized by Xavier's Economic Society at St. Xavier's College, Kolkata, 2013.
- Debolina Chakrabarti: Presented paper "Policies and announcements of the NDA govt in its first year (May 2014- May 2015) and their macroeconomic/sector implications" in the Reliance Industries' Limited's Treasury.
- Debolina Chakrabarti: Presented paper "The Make In India program and historical analysis of other Asian economies in stimulating manufacturing growth" in the Reliance Industries' Limited's Treasury.
- Rishav Roy & Ayush Kashyap: Represented the University in the following quiz competitions: Brabourne College festival Quiz [attained 1st position], Quiz at Saturday Club [adjudged best college team], IRSC JU quiz [attained 3rd place], 2015.
- Rishav Roy: First in both JU Fresher's Quiz and in Presi Fresher's Quiz, 2015.
- Rishav Roy: Part of the team that qualified for SATC Club quiz finals, 2015.
- Rishav Roy: Gave an interview for the same for the newspaper 'T2', 2015.
- Auritra Chandra: Attained first position in Debate at NIOH on International Day of people with disabilities, 2015.
- Rahul S Chauhan: Best Delegate in European Union in Chaitanya Bharati Institute of Tech Model United Nations, 2015.
- Rahul S Chauhan: Winner, Scriptus economics essay competition, St. Xavier's College, 2015.
- Rahul S Chauhan: Selected to represent India at the South Asian Economics Students Meet, Colombo for paper presentation, 2015.

48. Give details of "beyond syllabus scholarly activities" of the department. :

- Students of Economics Department have established a Presidency University Young Entrepreneurship Society (PUYES)
- UG and PG students are given a forum to present their papers on a regular basis to improve presentation skills
- Student excursions are organized every year

**49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. :
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50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied. :

Regular (software-based) capacity building workshops are organized for internal students and external participants (researchers and young faculty).

In addition faculty undertakes research in the areas of Applied Econometrics, Health Economics, Finance, Environment, Social Networking, Micro-credit and Game theory.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department. :

● **Strength:**

1. Strong alumni base allows us to organize lectures and workshops regularly
2. List of senior guest faculty from institutes like ISI Kolkata, IIMC, Calcutta University, CSSS, etc.
3. Focus on applied / software based learning at UG and PG levels

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4. Application of knowledge acquired in theoretical and practical classes in compulsory project assignments at UG and PG level
5. Students are extremely bright and enterprising—shining in both academic and extracurricular activities

● **Weaknesses:**

1. Full-time faculty strength needs to be increased on urgent basis
2. Lab facility also needs to be improved
3. Absence of seminar library within Departmental premises
4. Faculty needs to increase research activities and publications
5. Absence of a systematic corporate placement mechanism

● **Opportunities:**

1. Establishment of Infosys Chair Professor in Economics
2. Two Endowment funds given by alumni to hold conferences and for a Visiting Professor in Industrial Economics
3. Research collaboration with Tata Medical Centre
4. Faculty Development Fund provided for filling in gaps in research infrastructure, foreign travel, participation in conferences, etc.
5. Strong academic bonding between different batches of students

● **Challenges:**

1. Expand optional subjects at PG level
2. Strengthen research base
3. Establish ties with other research institutes/ Universities
4. Expand industry-academic interactions
5. Expand research in inter- and transdisciplinary domains

52. Future plans of the department.

- Expand list of optional subjects at PG level (Health Economics & Demography, International Economics)
- Strengthen laboratory facilities for UG and PG students
- Improve research lab for PhD students
- Establish a Center for Big Data Analytics and Innovation in collaboration with the Mathematics & Statistics departments
- Establish ties with other research institutes/ Universities
- Expand industry-academic interactions
- Expand research in inter- and transdisciplinary domains

Annexures

1. List of Research Projects in Last four Years

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI/ Co-PI	Title	Fund Sanctioned	Fund Received	Completed /ongoing
1	2015	-	University of Chicago Centre in Delhi	Pulak Ghosh	Demand and Inventory Prediction for Perishable Goods in Indian market	1430000	1430000	Ongoing
2	2015	-	IIMB Challenge Grant, 2015	Pulak Ghosh	Housing, Household Leverage and Consumption of Durable Goods: Analysis of the Indian Automobile Market	1700000	1700000	Ongoing
3	2013	-	European Union Research grant	Pulak Ghosh	Multivariate Bayesian Modeling of Skewness and Kurtosis with Applications in statistics	1000000	1000000	Ongoing
4	2016	-	Tata Medical Centre	Mousumi Dutta	Restrictive or Individualized Goal-Directed Fluid Replacement Strategy in Ovarian Cancer Cytoreductive Surgery– A prospective randomized controlled trial	80000	0	Ongoing
5	2013	-	UGC Minor Research Project	Gagari Chakrabarty	Dynamics of Stock market cycles: A systematic introspection from past evidence	90000	.90000	Ongoing
6	2012	2015	ICSSR, Delhi	Mousumi Dutta	Choice of Traditional Contraceptives among Currently Married Women in Kolkata: Ultra-Modernism or Son Preference	871000	871000	Completed
7	2013	2015	FRPDF	Mousumi Dutta	Role of grandparent's involvement in child-care in women's labour force participation	300000	300000	Completed
8	2013	2014	FRPDF	Mousumi Dutta	Prevalence of smoking among adolescents in Kolkata	70000	70000	Completed
9	2011	2012	ICSSR, Eastern Region	Mousumi Dutta	Analyzing nature of demand for medical care in India: A micro-level analysis	30000	30000	Completed

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2. List of Seminars and Conferences Organized in last three years

Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/national level) (student enrichment programme)
1	14-19 January 2016	Capacity Building Workshop on Econometrics & Finance	University	National workshop
2	11-12 Jan 2016	Learning SPSS	University	State Workshop
3	6,7 & 9 January 2016	Entrepreneurship Development Workshop	Sadhukha Visiting Professor of Industrial Economics Endowment	State workshop
4	10 December 2015	Dipak Banerjee Memorial lecture given by Dr. Raghuram Rajan, Governor, RBI	University	Public lecture / Seminar
5	2 November 2015	Issues in Economic Theory & Policy	Nirmal Kanti Majumdar Endowment Fund	International
6	September 2015	Prof. Maitreesh Ghatak, Series of lecture on Issues related to Development Economics	University	International / Student enrichment programme
7	14 August, 2015	Legacy of John Nash	University	National
8	28 April 2015	Dr Bimal Jalan, Economy, politics and governance	University	Public lecture / Seminar
9	April 25 & 26, 2015	Prof. Caprice Knapp 2-day workshop on Health Policy Issues	University	International/ Student enrichment programme
10	19-21 March 2015	Workshop on "Discrete choice models and ARCH/GARCH models in Risk Modelling"	University	National
11	22 January 2015	Esther Dufflo, The role of women in the Panchayati Raj	University	International / Student enrichment programme
12	7 January, 2015	Dr. Arnab Biswas Seminar on Media Freedom & Gender Equality	University	International / Student enrichment programme
13	12 December, 2014	Dr. Kusum Mundra Seminar on Immigrant Networks and Trade Creation	University	International / Student enrichment programme
14	2014	Dipak Banerjee Memorial lecture given by Prof. Dilip Mookherjee, Boston University	University	Public lecture / Seminar
15	21-24 November 2014	Workshop on "Econometric Analysis using R and SPSS "	University	State workshop

Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/national level) (student enrichment programme)
16	3 September 2014	Workshop on RBI Annual Report 2013-14	University	State
17	8 January, 2014	Prof. Mukul Majumdar, H.T. Warshow and Robert Irving Warshow Professor of Economics, Cornell University, Equilibrium and Welfare in the Arrow-Debreu Model: A Formal Exposition	University	International / Student enrichment programme
18	25 October, 2013	Prof. Ambar Ghosh Seminar on An Alternative to the IS-LM Model	University	National / Student enrichment programme
19	18 September 2013	Prof Indrajit Ray, University of Birmingham, Correlation and Cheap Talk	University	International / Student enrichment programme
20	4 September 2013	Dr Parikshit Ghosh, Delhi School of Economics, Money and Motivation	University	National / Student enrichment programme
21	2013	Dipak Banerjee Memorial lecture given by Prof. Amartya Sen, Harvard University	University	Public lecture / Seminar
22	2012	Dipak Banerjee Memorial lecture given by Prof. Joseph Stiglitz, Columbia Business School	University	Public lecture / Seminar
23	November 2012	Capacity building programme on Financial Economics	RBI	Workshop
24	26th to 28th September, 2012	Seminar on 'Economic Theory and Policy: Multiple Facets': Amitava Bose (IIMC), Pradip Maiti (ISI), D Dasgupta (ISI), AK Sinha (IIMC), SN Sikdar (IIMC)	University	State / Student enrichment programme
25	3rd to 5th, 11th, 14th, 18th and 21st September, 2012	Workshop on 'Time Series Econometrics'	University	Workshop
26	2nd and 5th November 2011	Prof. Anup Kumar Sinha (IIMC) Climate Change: The perfect storm and Dr. Runa Sarkar (IIMC) Environmental Economics	University, in collaboration with IIMC	State / Student enrichment programme
27	December 2011	National Level capacity building programme on Financial Economics	UCO Bank	Workshop

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Sl. No.	Date/Month	Topic	Source of Funding	Status (Local/State/national level) (student enrichment programme)
28	8-14 September 2011	Capacity Building Workshop on Applied Econometric Analysis: Time Series and Cross Section Analysis	Reserve Bank of India and ICSSR (Eastern Region)	Workshop
29	9th and 22nd December, 2010 & 17th -18th February, 2011	Workshop on Advanced Topics in Cross Section and Time Series Econometrics - Theories and Applications Part I-II	University	Workshop
30	December 2010 - January, 2011	Two-phased national level workshop on Advanced Financial Economic Theory and Financial Econometrics	University	National level workshop

3. Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as Resource person /Invited Speaker
1	Saswatee Mukherjee	International Conference on Emerging Research on Sustainable Economic Development	2-3 February, 2016	Startford university	International	Paper Presenter
2	Jayeeta Deshmukh	57th Annual conference of the Indian Society of Labour Economics	10-12 October, 2015	Department of Economics, Central University of Kashmir	National	Paper Presenter
3	Mousumi Dutta	Annual Conference of British Society for Population Studies	7-9 September 2015	Leeds University	International	Paper Presenter
4	Mousumi Dutta	Third Conference of Asian Population Association	27-30 July 2015	University of Malaya and Asian Population Association	International	Paper Presenter
5	Jayeeta Deshmukh	2nd International Research Scholars' workshop	28-29 July, 2015	Department of Economics, University of Calcutta	International	Discussant
6	Pravesh Tamang	Dissemination Workshop of the Fifth Assessment Report (AR5) of IPCC	9th March, 2015		National	Attended
7	Saswatee Mukherjee	International Conference on Global Business, Economics,- Finance and Social Sciences (GB15 Thai Conference)	20-22 March, 2015	British University of Dubai and SDMIND	International	Paper Presenter
8	Jayeeta Deshmukh	Reading Group Seminar	30th October, 2014	Economic and Planning Unit of ISI, Delhi Centre	National	Paper Presenter

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
9	Jayeeta Deshmukh	2nd IGC-ISI Summer School in Development Economics	15th July, 2014	ISI, Delhi unit	International	Paper Presenter
10	Saswatee Mukherjee	5th IGC-ISI India Development Policy Conference	17-18 July 2014	Indian Statistical Institute, New Delhi and International Growth Centre (IGC), New Delhi.	International	Attended
11	Saswatee Mukherjee	2nd IGC-ISI Summer School in Development Economics	12-16 July 2014	Indian Statistical Institute, New Delhi and International Growth Centre (IGC), New Delhi.	International	Attended
12	Jayeeta Deshmukh	2nd IGC-ISI Summer School in Development Economics	12-16 July 2014	Indian Statistical Institute, New Delhi and International Growth Centre (IGC), New Delhi.	International	Attended
13	Saswatee Mukherjee	Centenary Research Scholars' Workshop	8-9 July, 2014	Department of Economics, Calcutta University, Kolkata	National	Discussant
14	Mousumi Dutta:	European Population Conference on "Transition, Opportunities and Threats"	25-28 June 2014	Corvinus University, Budapest	International	Paper Presenter
15	Saswatee Mukherjee	Two-day Seminar on Rural Resource, Credit and Livelihood: The Question of Inclusion	27-28 February, 2014	Rabindra Bharati University-NABARD, Kolkata	National	Paper Presenter
16	Jayeeta Deshmukh	ISI-Warwick workshop	24-28 February, 2014.	ISI Delhi unit and Warwick University	International	Attended
17	Mousumi Dutta (with Antara Dhar and Zakir Husain)	Annual Conference on "Issues in Development, Wellbeing and Livelihood	17-18 January 2014.	Economics Department, Burdwan University	National	Paper Presenter
18	Mousumi Dutta (with Antara Dhar and Zakir Husain)	23rd Annual Conference on "Issues in Development Economics	6-7 January 2014	Department of Economics, Jadavpur University	International	Paper Presenter
19	Mousumi Dutta	50th Golden Jubilee Conference of the Indian Econometric Society	22-24 December 2013.	Indira Gandhi Institute of Development Research, Mumbai	International	Paper Presenter
20	Mousumi Dutta: (with Zakir Husain)	10th Annual Conference on Growth and Development	19-21 December 2013	Indian Statistical Institute, Delhi	International	Paper Presenter

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
21	Saswatee Mukherjee:	9th Annual International Conference on Economic Growth and Development,	19-21 December 2013	Indian Statistical Institute, Delhi	International	Paper Presenter
22	Mousumi Dutta: (with Antara Dhar and Zakir Husain)	55th Annual Conference of Indian Society of Labour Economics	16-18 December 2013	CESP, Jawaharlal Nehru University, Delhi	International	Paper Presenter
23	Saswatee Mukherjee	Winter School 2013	16-18 December 2013	Centre for Development Economics, Delhi School of Economics, New Delhi	International	Paper Presenter
24	Jayeeta Deshmukh	workshop on 'Social and Economic Networks'		Center of Excellence in Systems Science, IIT Jodhpur, Rajasthan, India.	International	Invited Lecture
25	Saswatee Mukherjee	33rd Annual Conference	23-24 February, 2013	Bengal Economic Association, Kolkata	National	Paper Presenter
26	Saswatee Mukherjee	22nd Annual Conference on Contemporary Issues in Development Economics	3-4 January, 2013.	by Jadavpur University, Kolkata	International	Paper Presenter
27	Mousumi Dutta	Annual International Conference on Growth and Development	17-19 December 2012	Indian Statistical Institute, Delhi	International	Paper Presenter
28	Mousumi Dutta	The 2nd APA conference	26-29 August 2012	Bangkok	International	Paper Presenter
29	Mousumi Dutta	The 2nd APA conference	26-29 August 2012	Bangkok	International	Paper Presenter
30	Mousumi Dutta	European Population Conference	13-16 June 2012	Stockholm	International	Paper Presenter
31	Mousumi Dutta	UGC DRS sponsored National Level Seminar	28-29 March, 2012	Economics Department of University of Calcutta	National	Paper Presenter
32	Mousumi Dutta	UGC sponsored National Level Seminar	8-9 February, 2012	Statistics Department of University of Calcutta	National	Paper Presenter
33	Mousumi Dutta	Indian Health Economics and Policy Association, Ministry of Health and Family Welfare (Govt. of India), World Health Organization, UKaid and World Health Organization	18-19 November 2011	Institute of Economic Growth, Delhi	International	Paper Presenter

4. List of Publications in papers (peer-reviewed only), Books, Monographs, Last Four Years (Year wise and alphabetically) Papers (Year-wise and Alphabetically): 2016 and Accepted Online

1. Ausin, C., Galeano, P., and Ghosh, P. A Semiparametric Bayesian Approach to the Analysis of Financial Time Series with Applications to Value at Risk Estimation: *European Journal of Operations Research*, v. 232, p. 350–358. Citation: 9; Impact Factor: 2.911
2. Brown, S., Ghosh, P., Su, L., and Taylor, K. Modeling Household Finances: A Bayesian Approach to Multivariate two-part model: *Journal of Empirical Finance*, v. Accepted - Available Online. Impact Factor: 0.714
3. Brown, S., Ghosh, P., and Taylor, K. Household Finances and Social Interaction: Bayesian Analysis of Household Panel Data: Review of Income and Wealth, v. Accepted - Online Available. Impact Factor: 1.056
4. Chakrabarti, G. The efficacy of intervention in a chaotic foreign exchange market: an empirical study in INR-USD exchange rate series: *Decision*, v. 41, p. 399–410, doi: 10.1007/s40622-014-0066-9.
5. Mukherji, A., Roychoudhury, S., Ghosh, P., and Brown, S. A Bayesian Joint Model for Hospitalization and Out-of-Pocket Expenditure: *Journal of Applied Econometrics*, v. Accepted - Available Online. Impact Factor: 1.673
6. Sriram, K., Ramamoorthi, R.V., and Ghosh, P. Simultaneous Bayesian Estimation of Multiple quantiles with an Extension to Hierarchical Models: *Sankhya - Series A*, v. Accepted- Online Available.
7. Sriram, K., Shi, P., and Ghosh, P., 2016, A Bayesian Quantile Regression Model for Insurance Company Cost Data: *Journal of the Royal Statistical Society*: v. 179, p. 177–202. Impact Factor: 1.643
8. Stanley, I.M.K., Chong, T.L., and Ghosh, P. Stick-Breaking Bayesian Change-Point VAR model with Stochastic Search Variable Selection: *Journal of Econometrics*, v. Accepted. Impact Factor: 1.600
9. Voleti, S., Kopalle, P., and Ghosh, P. An Interproduct Competition Model Incorporating Branding Hierarchy and Product Similarities using Store-Level Data: *Management Science*, v. Accepted - Online Available. Impact Factor: 1.733

2015

10. Chakrabarti, G., 2015, Time Series Momentum Trading Strategy in Global Stock Market: *Business Economics*, v. 50, p. 80–90.
11. Dhar, A., Dutta, M., and Husain, Z., 2015, Is the bell tolling for elderly workers: *Journal of Regional Development and Planning*, v. 14.
12. Durham, G., Geweke, J., and Ghosh, P., 2015, A note on consistent Estimation of a Dynamic Jump Intensity model with Implications for Option Pricing: *Journal of Financial Economics*, v. 115, p. 210–215. Impact Factor: 4.047
13. Dutta, M., and Husain, Z., 2015, Grandparental childcare and labour market participation of mothers: *Economic and Political Weekly*, v. 23 May, p. 74–82.
14. Hong, G., Ryan, Y., and Ghosh, P., 2015, Bayesian Estimation of Long-Term Health Consequences of Obesity and Normal-Weight elderly: *Journal of the Royal Statistical Society*, v. Series A, p. 725–740. Impact Factor: 1.643
15. Stanley, I.M.K., Chong, T.L., and Ghosh, P., 2015, Dirichlet Process Hidden Markov Multiple change-Point Model: *Bayesian Analysis*, v. 10, p. 275–296. Impact Factor: 2.576
16. Stober, J., Grace, H., Czado, C., and Ghosh, P., 2015, Comorbidity of Chronic Disease in the Elderly: Patterns identified by a Copula Design for Mixed Responses: *Computational Statistics and Data Analysis*, v. 88, p. 28–39. Impact Factor: 1.400

2014

17. Brown, S., Ghosh, P., and Taylor, K., 2014, The Existence and Persistence of Household Financial Hardship: A Bayesian Multivariate Dynamic Logit Framework: *Journal of Banking and Finance*, v. 46, p. 285–298. Impact Factor:1.299
18. Dutta, M., Banerjee, S., and Husain, Z., 2014, Economics of Conservation of Built Heritage: A CV Study of Some Heritage Sites of Calcutta: *Indian Economic Review*, v. XXXX, p. 221–243. 19. Hong, G., Roychoudhury, S., and Ghosh, P., 2014, The Joint Assessment of Longitudinal Multidimensional Functionings in Over-weight and Obese Elderly with a Time Varying Covariates: *Statistics and Its Interface*, p. 297–305. Impact Factor:2.933
20. Husain, Z., Dutta, M., and Chowdhury, N., 2014, Is health wealth? Results of a panel data analysis: *Social Indicators Research*, v. 117, p. 121–143. Citation:1 ;Impact Factor:1.452
21. Husain, Z., Mukherjee, D., and Dutta, M., 2014, Self Help Groups and empowerment of women – Self-selection, or actual benefits? *Journal of International Development*, v. 26, p. 422–437. Citation:15 ;Impact Factor:0.622
22. Voleti, S., and Ghosh, P., 2014, A non-parametric model of residual brand equity in hierarchical branding structures with application to US beer data: *Journal of the Royal Statistical Society*, v. 177, p. 135–152. Impact Factor:1.643
23. Yu, B., O’Malle, A.J., and Ghosh, P., 2014, Linear mixed models for multiple outcomes using extended multivariate skew-t distributions: *Statistics and Its Interface*, p. 101–111. Impact Factor:2.933

2013

24. Dutta, M., and Husain, Z., 2013, Does health insurance ensure equitable health outcomes? An analysis of hospital services usage in urban India: *World Health and Population*, v. 14, p. 38–50.
25. Husain, Z., Ghosh, S., and Dutta, M., 2013, Ultra-modern contraception re-examined: Cultural dissent, or son preference? *Asian Population Studies*, v. 9, p. 280–300, doi: 10.1080/17441730.2013.816480.:
26. Husain, Z., Mukherjee, D., and Dutta, M., 2013, Are women economically more empowered in Left-run municipalities? A study of Self Help Groups in West Bengal: *Development in Practice*, v. 27, p. 107–122, doi: 10.1080/09614524.2013.750644.
27. Mukherjee, S., 2013a, A comparative analysis of interest rate between formal sector banks, local moneylenders and MFIs: *Journal of Development Entrepreneurship*, v. 18.
28. Mukherjee, S., 2013b, Sequential Group lending with and without Group liability: *Artha Beekshan*, v. 21, p. 75–85.
29. Muthukumar, S., and Ghosh, P., 2013, A semiparametric Bayesian approach for mark-recapture estimation: *Model Assisted Statistics and Applications*, v. 8, p. 29–39.
30. Sriram, K., Ramamoorthi, R.V., and Ghosh, P., 2013, Posterior consistency of Bayesian Quantile Regression based on the Misspecified asymmetric laplace density: *Bayesian Analysis*, v. 8, p. 479–504.
31. Voleti, S., and Ghosh, P., 2013, A Robust Model to Measure Equity in Hierarchical Branding Structures: *Quantitative Marketing and Economics*, v. 11, p. 289–319.
32. Wai, M., Tu, W., Ghosh, P., and Tiwari, R., 2013, A Nested Dirichlet Process Analysis of Cluster Randomized Trial Data with Application in Geriatric Care Assessment: *Journal of The American Statistical Association*, v. 108, p. 48–68.

2012

33. Abanto, C., Lachos, V., and Ghosh, P., 2012, A Bayesian Term Structure Modeling using heavy-tailed distributions: *Stochastic Models in Business and Industry*, v. 28, p. 430–447.
34. Chakrabarti, G., and Sarkar, A., 2012, Volatility in Indian Stock Market in recent years: Transmission from domestic sectors: *Finance India*, v. XXVI, p. 883–894.
35. Neelon, B., Ghosh, P., and Loeb, P., 2012, A Spatial Poisson Hurdle Model for Exploring Geographic Variation in Emergency Department Visits: *Journal of the Royal Statistical Society*, v. 176, p. 389–413.

2011

36. Chakrabarti, G., 2011, An Empirical Study on IT Stock Price Movement in India: *International Journal of Applied Economics and Finance*, v. 5, p. 138–148.
37. Chakrabarti, G., 2011, Financial crisis and the changing nature of volatility contagion in the Asia- Pacific region: *Journal of Asset Management*, v. 12, p. 172–184.
38. Chakrabarti, G., 2011, Real Sector-Financial Sector Interdependence in Indian Context: An Investigation in terms of Performance of the Emerging New Economy Sector: *Finance India*, v. XXV.
39. Chakrabarti, G., and Sen, C., 2011, Volatility Regimes and Calendar Anomaly in Foreign Exchange Market: *International Journal of Applied Economics and Finance*, v. 5, p. 97–113.
40. Ghosh, P., Ghosh, K., and Tiwari, R., 2011, Joint modeling of longitudinal data and informative dropout time in the presence of multiple changepoints: *Statistics in Medicine*, p. 611–626.
41. Ghosh, P., Ghosh, K., and Tiwari, R., 2011, Bayesian Approach to Cancer-Trend Analysis using Age-Stratified Poisson Regression Models: *Statistics in Medicine*, v. 30, p. 127–139.
42. Ghosh, P., Nathoo, F., Gonen, M., and Tiwari, R., 2011, Assessing noninferiority in a three-arm trial using the Bayesian Approach: *Statistics in Medicine*, p. 1795–1808.
43. Park, Y.H., Park, C.H., and Ghosh, P., 2011, Modeling Member Behaviors in User-Generated Content Sites: A Semiparametric Bayesian Approach: *Journal of the Royal Statistical Society*, p. 1051–1069.
44. Rizopoulos, D., and Ghosh, P., 2011, A Bayesian Semiparametric Multivariate Joint Model for Multiple Longitudinal Outcomes and a Time-to-Event: *Statistics in Medicine*, p. 1366–1380.
45. Saha, S., and Chakrabarti, G., 2011, Financial Crisis and Financial Market Volatility Spill-over: *International Journal of Applied Economics and Finance*, v. 5, p. 185–199.
46. Sen, C., Chakrabarti, G., and Sarkar, A., 2011, Evidence of Chaos: A Tale of two Exchange Rates: *The Empirical Economics Letters*, v. 10, p. 777–784.
47. Tu, W., Ghosh, P., and Katz, B., 2011, Assessing Male-to-Female Chlamydia Trachomatis Transmission Risk Using Observational Data: *Journal of the Royal Statistical Society*, p. 975–989.

Papers in edited books:

1. Chakrabarti, G., In Press, Global Foreign Exchange Market: A Crisis Analysis, in Roy, M. and Roy, S.S. eds., *International Trade and International Finance: Explorations on Contemporary Issues*, New Delhi, Springer India.
2. Chakrabarti, G., and Sen, C., In Press, The Greens, the Grays and the Global Stock Market, in Sarkar, A. and Ray, T. eds., *Managing Sustainable Development: Innovations and Best Practices*, New Delhi, Springer India.

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2015

3. Chakrabarti, G., 2015, Waves of Financial Crises: History repeats itself?, in Das, R.C. ed., Handbook of research on Globalization, Investment, and Growth-Implications of Confidence and Governance, USA, IGI Global, p. 332–362.

2013

4. Dutta, M., and Husain, Z., 2013, Nabadiganta—A new horizon? Patriarchy, globalization and women’s agency in the IT sector, in Banerjee, S. and Chakrabarti, A. eds., Development and sustainability: India in a global perspective, Springer, p. 321–338.
5. Sarkar, A., Chakrabarti, G., and Sen, C., 2013, Volatility, Long Memory, and Chaos: A Discussion on some “Stylized Facts” in Financial Markets with a Focus on High Frequency Data, in Banerjee, S. and Chakrabarti, A. eds., Development and Sustainability: India in a global perspective, Springer, p. 71–101.

Books

2015

1. Chakrabarti, G., and Sen, C., 2015, Green Investing: the case of India: Springer.

2014

2. Husain, Z., and Dutta, M., 2014, Women Workers in Kolkata’s IT sector: Satisficing Work and Household: Springer.

2013

3. Chakrabarti, G., and Sen, C., 2013, Momentum Trading on the Indian Stock Market’: Springer.

2012

4. Chakrabarti, G., 2012, Walking the road of New Economy: is India matured enough? Germany, LAP Lambert Academic Publishing.
5. Chakrabarti, G., and Sen, C., 2012, Anatomy of Global Stock Market Crashes: An Empirical Analysis:.
5. List of Conference Publications Last Four Years

2015

1. Moitra, B., and Mukherjee, S., 2015, Effects of Competition on default rates in a Microcredit market: an empirical analysis, in Refereed Conference Proceedings, International, Invited Speaker.
2. Mukherjee, S., and Moitra, B., 2015, Competition and Information Sharing Among Lenders: Grameen II, in Refereed Conference Proceedings, International, Invited Speaker.

Synopsis of Publications

Publications		2011	2012	2013	2014	2015	Total
Paper (peer-reviewed)	national	1	1	1	1	2	6
	International	11	2	8	4	5	30
Books & Monographs	national	0	0	0	0	0	0
	International	0	2	1	1	1	5
Articles in magazine/ Newspaper		0	0	0	0	0	0

7. **Summer Projects conducted for students from other institutes and for own students and summer projects arranged for own students in other institutes (Provide List of names and year) (last four years)**

YEAR	NAME	INSTITUTION
2015	Rangoli Jain	Reserve Bank Of India
2015	Soumallya Chattopadhyay	Reserve Bank Of India
2015	Mukulita Ganguly	Protiviti
2015	Debamudra Guha	Centre For Studies In Social Sciences, Calcutta
2015	Rupama Nayek	Centre For Studies In Social Sciences, Calcutta
2015	Soham Kumar Pal	Centre For Studies In Social Sciences, Calcutta
2015	Avinash Mitra	Deloitte India
2015	Sukanya Acharya	Sigmaway Llc
2014	Utsa Banerjee	Reserve Bank Of India
2014	Sukanya Chakraborty	Reserve Bank Of India
2014	Ashwini Sancheti	Centre For Studies In Social Sciences, Calcutta
2014	Srijan Banerjee	Centre For Studies In Social Sciences, Calcutta

8. **Names of Students with outstanding achievements and placements for higher studies (last four years)**

Many students of the department go on to join top Ph.D. or masters programmes abroad.

2014

Two undergraduate students went to do masters - Devvart Podder at Hertie School of Governance, Berlin and Neha Bose at University of Warwick. Four students joined Ph.D. programmes in the USA - Arpita Mukherjee (Rutgers University), Pritha Chowdhury (Purdue University), Soumyadeb Chatterjee (University of Albany) and Debdeep Ghosh (Southern Methodist University).

2015

One student - Arkadeep Bandyopadhyay joined Paris School of Economics for masters.

9. **A brief history of the Department:**

The Economics department in Presidency University has a rich heritage. In its golden era, the department ran arguably one of the finest undergraduate programmes in the world. Many of its alumni have achieved international renown in the academic world. Although Amartya Sen, recipient of the Nobel Prize in Economics in 1998, is possibly the most well-known alumni, others like Abhijit Vinayak Banerjee, Debraj Ray, Pranab Bardhan, Amiya Bagchi, Bibek Debroy, Sugata Marjit and Maitreesh Ghatak, to name only a few, have become stalwarts in the academic field.

Traditionally, the department has emphasized on theoretical aspects of the discipline. In the last decade, in keeping with current global trends in research and teaching, the department has broadened its focus to include the empirical domain. In 2005, the Department of Science and Technology's FIST grant facilitated the introduction of a Masters in Applied Economics programme. The motive behind this development was to introduce students to current empirical methods and econometric/statistical software, and provide them with grounding in undertaking empirical research. The curriculum, integrating theoretical knowledge with applied skills, produced a new generation of students fit for cutting edge research. The success of the masters programme may be gauged from the rate of absorption of our students by reputed data analytics and financial services companies.

Evaluative Report of the Department: Geography

1. **Name of the department:** GEOGRAPHY

2. **Year of Establishment:** 2010 (as University), 1949 (as College)

3. **Is the department part of a School/Faculty of the university?**

Under the Faculty of Natural & Mathematical Sciences

4. **Names of the programs offered:**

- B.Sc. Honours in Geography
- M.Sc. in Geography
- Ph.D. in Science

5. **Interdisciplinary programs and departments involved:**

- Department offers interdisciplinary Gen-Ed Courses for the other Departments in the undergraduate Programme
- RS-GIS applications in PhD levels with Departments of Physics, Biological Sciences and Geology
- The department offers some research methodology courses which are on offer to scholars of other departments, to be taken as part of their Ph.D. Coursework

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

- Students pursue their PG dissertation with other organizations (like NIO, Goa) with approval from both sides

7. **Details of programs discontinued, if any:** None

8. **Examination System:**

- Semester system with Choice Based Credit System for GenEd. Options from a basket of special papers.

9. **Participation of the department in courses offered by other departments:** Nil

10. **Number of teaching posts sanctioned, filled and actual (Professors, Associate Professors, Asst. Professors/ others)**

	Sanctioned	Filled	Actual (Including CAS & MPS)
Professor	1	0	0
Associate Professor	0	0	0
Asst. Professor	13	9	9
Others			

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of experience	No. of PhD/MPhil students guided for the last 4 years
Dr. Soumendu Chatterjee	Ph.D.	Assistant Professor and Head of the Department	Soil science and environment geography	15	05
Dr. Mery Biswas	Ph.D.	Assistant Professor	Geomorphology	10	
Dr. Suranjana Banerjee	Ph.D.	Assistant Professor	Environment and Sustainable Development	08	
Dr. Subhajit Das	Ph.D.	Assistant Professor	Geography of Tourism	06	
Dr. Priyank Pravin Patel	Ph.D.	Assistant Professor	Physical aspects of Geography, Geotectonic and Geomorphology	04	
Dr. Joy Sanyal	Ph.D.	Assistant Professor	Surface water hydrology, Remote Sensing	08	
Dr. Koel Roy chowdhury	Ph.D.	Assistant Professor	Regional Planning; Remote Sensing	02	
Aritra Chakraborty	M.Phil	Assistant Professor	Social and Political Geography, Regional Development and Planning	10	
Dhiraj Barman	M.Phil	Assistant Professor	Social Geography	03	

12. List of senior visiting fellows, adjunct faculty, emeritus professors: Nil

13. Percentage of classes taken by temporary faculty – program-wise information: UG (10%) PG (8%) Ph.D.: Nil

14. Program-wise student-teacher ratio: UG 8:1 PG 6:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual: Total support staff: 05

	Sanctioned	Filled
Administrative		2 (on contract) 3 (WB Govt.staff)
Technical		0

16. Research thrust areas as recognized by major funding agencies:

- a) D.S.T.: Watershed Management, Natural Hazard and Disaster Management, High Mountain Ecosystem, Basin Ecological Analysis, Environmental Impact of Tourism
- b) State Government: Hydrological Research

17. Number of faculty with ongoing projects from a) national, b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

- **Project #1:**

Title: Improvement of short term urban and peri-urban landcover classification using RISAT – 1 polarimetric images

Timeline: yet to start

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Role of the Faculty Member: PI

Funding Agency: UGC Faculty Research Promotion Scheme (UGC-FRPS) Start-Up Grant

Amount of Funding: Rupees Six Lakhs

- **Project #2:**

Title: Geomorphic Characterisation of the Gangani Tract, Paschim Medinipur District, West Bengal towards Landscape Mapping, Measurement and Management

Timeline: (April, 2015 - Ongoing)

Role of the Faculty Member: PI

Funding Agency: UGC Faculty Research Promotion Scheme (UGC-FRPS) Start-Up Grant

Amount of Funding: Rupees Six Lakhs

- **Project #3:**

Title: "Large Scale Geomorphological Mapping of a Badland Terrain and Adjacent Stream Corridor for Measuring Gully Network Extension and Riverbank Erosion for Soil Loss Estimation and Agro-Forestry Conservation"

Timeline: (August, 2015 - Ongoing)

Role of the Faculty Member: PI

Funding Agency: DigitalGlobe Foundation Imagery Grant

Amount of Funding: Rupees Thirty-one Lakhs (approximately) worth of high resolution satellite images obtained

- **Project #4:**

Title: "Modelling the impact of constructing cascade dams on the evolution of the downstream channel morphology and the risk of dam-break disasters in the Teesta River"

Timeline: (2014 - 2017)

Role of the Faculty Member: PI

Funding Agency: Science and Engineering Research Board, DST

Amount of Funding: 21.5 Lakhs rupees

- **Project #5:**

Title: "Modelling the vertical growth of Kolkata"

Timeline: (2014 - 2016)

Role of the Faculty Member: PI

Funding Agency: DigitalGlobe Foundation

Amount of Funding: Data grant

18. Inter-institutional collaborative projects and associated grants received a) National collaboration; b) International collaboration.

- Dr. Subhajit Das is presently working on a project in collaboration with Dr. Keith William Bosak who is an

Associate Professor of Nature- Based Tourism, Department of Society and Conservation, College of Forestry and Conservation, The University of Montana, USA

Title of the International Program: International Technical Assistance in Sustainable Resource Management

Title of the Collaborative Project: Challenges and opportunities for conservation in the Sundarbans

Total Sanctioned Fund for the period from 01st August, 2015 to 30th June, 2016: 8100 USD

19. Departmental projects funded by DST-FIST; UGC – SAP/CAS; DPE; DBT; ICSSR; AICTE etc: total grants received.

- DST –FIST Grant Received: Rs 55 Lakh (Duration 2015-2020)

20. Research facility/centre with

- a. State recognition : GIS Laboratory & Hydrology Laboratory
 - Provision of facilities for GIS Analysis and mapping with ArcGIS, Mapinfo GIS Softwares
 - Provision of earth materials, soils and water sample testing facilities (Tide Gauge, Echo Sounder for bathymetry mapping, Water Quality Mapping)
- b. National recognition: DST-FIST funded Laboratory
- c. International recognition

21. Special research laboratories sponsored by/ credited by industry or corporate bodies. Nil

22. Publications: (list in annexure)

- a. Number of papers published in peer reviewed journals (national/international) - 17
- b. Monographs
- c. Chapters in books - 7
- d. Edited books
- e. Books with ISBN with details of publishers
- f. Number listed in international database (for example web of science, scopus, humanities international complete, Dare Database – International Social Sciences Directory, EBCOHostetc)–6+2
- g. Citation index – range/average
- h. SNIP
- i. SJR
- j. Impact factor – range/average
- k. H-index -6 (JS)

23. Details of patents/income generated: Nil

24. Areas of consultancy and income generated: Nil

25. Faculty selected nationally/ internationally to visit other laboratories/ institutions/ industries in India and abroad: Nil

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26. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)

- **Dr. Mery Biswas:** Assistant Secretary in reputed Journals: Indian Journal of Landscape system and ecological studies ISSN 0971-4170 (2010-2014)

Others:

- * Life Member of National association of Geographers of India, Delhi
- * Life Member Indian Institute of Geomorphologists, Allahabad
- * Life Member Indian National Cartographic Association

- **Dr. Priyank Pravin Patel:**

Secretary, Indian Society of Spatial Scientists (publishes the Bi-Annual Reviewed Online Journal – Indian Journal of Spatial Science) (ISSN 2249-3921; EISSN 2249 4316) (www.indiansss.org) Secretary, Geographical Institute, Dept. of Geography, Presidency University, Kolkata

Organising Committee Member of National Seminar on “Remote Sensing & Environment” held at Jadavpur University, Kolkata from 20-22 March, organised by School of Oceanographic Studies, Jadavpur University, Kolkata in collaboration with Council and Department of Science & Technology, Government of West Bengal

Others:

- * Life Member of National Association of Geographers of India (N.A.G.I.), Hyderabad
- * Life member of Indian Society of Remote Sensing (I.S.R.S.), Dehradun
- * Life Member of Geographical Society of India, Kolkata

- **Aritra Chakraborty**

Life Member of Geographical Society of India, Kolkata

Life Member of Regional Science Association of India, Kolkata

Former Member of the editorial board of ‘The Geographical Review of India’

- **Dr. Suranjana Banerjee**

Associate Editor of The International Journal of Environmental Sustainability, Volume 10, Issue 3-4.

Life Member of Indian Institute of Geographers (IIG), Pune.

- **Dr. Subhajit Das**

Member of the “Publication-Edit Committee” of Department of Tourism, Government of West Bengal, Kolkata-01 since 28/11/2013

27. Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs)

Dr. Mery Biswas:

- A. Refresher Course in Geography, at Department of Geography, Calcutta University. Ballygunge Science College, Kolkata, March 27 to April 18, 2015

- B. Workshop On Quantitative Methods for Researchers in Social Sciences was held at Institute of Development Studies Kolkata during July 27-31, 2015, Institute Of Development Studies Kolkata (A Centre of Excellence In Social Sciences Funded By The Government Of West Bengal)

Dr. Priyank Pravin Patel:

Attended Orientation Programme (OP-109), Academic Staff College, University of Calcutta (ASC-CU), 30 March - 29 April, 2015. Grade Secured: "A".

Workshops: 04

Pre-Symposium Tutorial) on Radar Satellite Imaging Systems, organised by the Indian Society of Geomatics (ISG) and Indian Society of Remote Sensing (ISRS) in Jaipur from 14-15 December, 2015

Workshop On Quantitative Methods For Researchers In Social Sciences, held at Institute Of Development Studies Kolkata (IDSK) during July 27-31, 2015

Pre-Symposium Tutorial on Flood Monitoring and Modelling, ISPRS TC VIII International Symposium, National Remote Sensing Centre (NRSC), Hyderabad, 7-8 December, 2014.

Workshop on 'Remote Sensing and Aerial Photography' held at Loreto College, Kolkata on 12 December, 2013, organised by Dept. of Science and Technology and Dept. of Geography, Loreto College, Kolkata

Aritra Chakraborty

Attended Orientation Programme , ASC Jadavpur University, 29.8.2011 to 26.09.2011

Dr. Subhajt Das

Orientation Program: 01 (June 23 to July 21, 2012) from UGC-Academic Staff College, University of Calcutta

Refresher Course: 01 (02.03.2015 to 21.03.2015) from UGC-Academic Staff College, Himachal Pradesh University on Research Methodology for Social Sciences (Inter-Disciplinary)

Workshops: 02

On 'Open Source GIS: QGIS' organized by Department of Geography at West Bengal State University from 14th to 16th October, 2009.

UGC sponsored Workshop on 'Data Analysis in Physical Education and Humanities using SPSS' organized by Union Christian Training College, Berhampore, Murshidabad in collaboration with Fitness Society of India from 5th to 7th May, 2010.

Training Program: 02

The Short Course on Global Positioning System (GPS) conducted by National Thematic Mapping Organization (NATMO), Department of Science and Technology, Government of India, at the Research Development and Training Division from 13th to 17th October, 2008.

2-Week Special course on "Introduction to Digital Image Processing and Pattern Recognition" conducted by NRSC, Hyderabad from (03 - 14 August, 2015)

28. Student projects (provide list in annexure) Nil.

- a. Percentage of students who have done in-house projects including inter-departmental projects
- b. Percentage of students doing projects in collaboration with other universities/ industry/ institute

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29. Awards/recognitions received at the national/international level by

a. Faculty

Dr. Koel Roychowdhury

- Japan Society for the Promotion of Science (UNU- JSPS) Postdoctoral Fellowship, 2012-2014
- Australian Leadership Award, AusAid, Government of Australia
- 2008- 2011
- DFID Commonwealth Scholarship, Association of Commonwealth Universities, Government of Great Britain. 2006-2007
- National Scholarship, Government of India 1997-1999
- National Scholarship, Government of India 1995-1997
- Attended Leadership Workshop as part of Australian Leadership Award Scholarship

Dr. Priyank Pravin Patel:

- Received “**Prof. N.P. Aiyar Young Geographer Award**” for paper titled “*Utility of Digital Elevation Models in Terrain Evaluation and Drainage Basin Analysis - A Case Study of the Chel River Basin, West Bengal*” at the 31st Indian Geography Congress of National Association of Geographers India (NAGI), held at Rani Durgawati University, Jabalpur from 19-21 November, 2009
- Received “**First Prize**” for paper titled “*Estimation of Land Surface Temperature from Landsat Thermal Images towards Urban Heat Island Mapping of Kolkata*” at **Junior Scientist Meet, 2009** at The Netaji Institute of Asian Studies on 18th March, 2009
- Received “**Best Paper Award**” for paper titled “*Implementation of Geospatial Databases for Drainage Basin Management*”, presented at The National Seminar on Research Methods & Techniques for Sustainable Development in India held at The Dept. of Geography, Ballygunge Science College, Kolkata from 25-26 March, 2006, organised by ILEE & IBRAD
- Qualified for the **L.S. (Lectureship Award)** through the National Eligibility Test (N.E.T.) conducted by the University Grants Commission (U.G.C.) on 26th June, 2005 and the **Junior Research Fellowship (J.R.F.) Award** through the National Eligibility Test (N.E.T.) conducted by the University Grants Commission (U.G.C.) on 31st December, 2005

Dr. Suranjana Banerjee

- University Junior Research Fellowship by the University of Calcutta in 2006 for pursuing doctoral work on ‘Prospects of Preservation of East Kolkata Wetlands with Particular Reference to the Conservation and Management of Fisheries: Role of the Government, the Stakeholders and the Community’ in the Department of Geography.
- Commonwealth Scholarship for pursuing an MA in Sustainable Development from Staffordshire University, UK in 2004.
- National Merit Scholarship on the basis of performance in the B.Sc examination conducted by the University of Calcutta, in 2001.
- National Merit Scholarship on the basis of performance in Madhyamik Examination conducted by the West Bengal Board of Secondary Education, in 1996.

b. Doctoral/postdoctoral fellows

c. Students

30. Seminars/conferences/workshops organized at the source of funding (national/ international) with details of outstanding participants, if any (Ref. list in annexure).

- Total invited special lectures and lecture Series - 9 (National - 4, International - 4, State / Local - 1)

31. Code of ethics of research followed by the departments:

Department does not adhere to any academic activity pertaining to plagiarism.

32. Student profile programme-wise:

Name of the programme (refer to question no. 4)	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
UG	1000	5	15		
PG	600	10	20		

33. Diversity of students

Name of the programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the state	% of students from iversities outside the state	% of students from other countries
PG	60	35	5	
P.hD	30	70		

34. How many students have cleared Civil Services examinations. NET, SET, GATE and other competitive examinations? Give details category-wise.

- NET: 30

35. Student progression

Student progression	Percentage against enrolled
UG to PG	80
PG to MPhil	10
PG to PhD	25
PhD to postdoctoral	05
Employed	
<ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	05 90
Entrepreneurs	05

36. Diversity of staff

Percentage of faculty who are graduates	
Of the same university	90
From other university within the state	10
From university from other states	00
Universities outside the country	00

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37. Number of faculty who were awarded M.Phil, PhD, DSc and DLitt during the assessment period: Nil

38. Present details of departmental infrastructural facilities with regards to

- a. Library: 1 library with more than 20000 books
- b. Internet facilities for staff and students: More than 60 Computers with wifi
- c. Total number of classrooms: 9
- d. Classrooms with ICT facility: 2
- e. Students' laboratories: 2
- f. Research laboratories: 1

39. List of doctoral, postdoctoral and research associates

- a. From the host institution/ university: Total 3 students (Mr. Kaushik Ghosh, Ms. Ishani Ghatak, Ms. Deblina Mitra)
- b. From other institutions/ universities: Nil

40. Number of postgraduate students getting financial assistance from the university

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:

Yes. Review of the earlier syllabi by faculty and Board of studies was carried out. It was found that the earlier syllabus lacked interdisciplinary nature and research oriented approach. Feedback taken on course modules from students and courses were tailor made to emphasize the wide spectrum of issues that Geography addresses along with inculcation of specific skills (Geoinformatics, EIA) required by specific employers in these fields.

- Outdated and old syllabus was changed at every level. Ph.D programme was introduced. This is a new programme to cater specifically for research. It was done according to the established UGC norm.

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback:

Yes. Discussions on course work, teaching methods employed and physical and digital infrastructure and resources for the same at Departmental faculty (monthly) and BOS meetings (quarterly). Department takes necessary steps to incorporate the changes required in teaching content and methodology by changing the syllabus from time to time.

- b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes. Feedback forms as prepared according to a set format by a University appointed committee for this specific purpose, are given to the students at the end of each semester to record their views for each and every course. Students express their views on delivery of the course, materials and content supplied or referred to, nature of class interaction, availability of faculty and facilities, evaluation methods and their overall learning experience.

The collated views from the above feedback are discussed in faculty, BOS and Student Faculty Council meetings. Issues arising therein are addressed categorically for the ensuing semesters. The matter of

inadequate geoinformatics laboratory facilities has been addressed through purchase of a number of computer systems, and software licences. Specialized short courses and invited lectures from external faculty have been arranged to supplement the taught curriculum.

Alumni and employers on the programmes offered and how does the department utilize the feedback?

Through talks and interactions with industry representatives as to their requirements. The taught curriculum has been modified to inculcate the required skills in the students. Alumni interact with faculty members and provide valuable inputs for syllabus improvement.

43. List the distinguished alumni of the department (maximum 10).

- i. Avijit Gupta
- ii. Swapna Guha Banerjee
- iii. Amal Kar
- iv. Satyesh Chandra Chakraborty
- v. Satyakam Sen
- vi. Sunil Munshi
- vii. Bireswar Banerjee
- viii. Chitta Ranjan Pathak
- ix. Saroj Pal
- x. Kuntala Lahiri Dutta

44. Give details of student enrichment programmes (special lectures/ workshops/ seminar) involving external experts.

- Seminars and invited talks at regular interval.

45. List the teaching methods adopted by the faculty for different programmes. a) Classroom teaching through conventional method

- b) Powerpoint presentation
- c) Term Papers and Assignments

46. How does the department ensure that the programme objectives are constantly met and learning outcomes are monitored?

- Performance of the students in competitive examinations like NET, SET, GRE, TOEFL and IELTS
- Admission of students in professional institutes like- (IIPS & TISS, Mumbai; CEPT, Ahmedabad; SPA, New Delhi & Bhopal) for higher studies.
- Framing and writing of quality dissertations and research projects.
- Students' presentations in National and International seminars and ensuing publications.

47. Highlight the participation of students and faculties in extension activities.

Some of the students are associated with NGOs looking into a number of social and environmental issues. Students have the option to join the NSS unit of Presidency University to get involved in extension activities.

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48. Give details of “beyond syllabus scholarly activities” of the department.

- Through continuous paper publication and seminar presentation.
- Participation in workshops, summer winter short-term courses, refresher courses and Orientation Programmes as participants and speakers
- Participation of the students in summer internships in institutes like NIO, Goa; IDSK, Kolkata
- GeoFest is organized the Geographical Institute, Presidency University (an organization of more than 50 years comprising students, faculty and alumni of the Department) where events include quizzes, debates, map and model making competition, essay writing and photography.

49. State whether the programme/ department is accredited/ graded by other agencies. If so, give details.

- DST-FIST in 2015. Amount sanctioned for developing the teaching learning facilities in the department in the next five years is Rs. 55 lakhs.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Modelling soil erosion from agricultural catchments
- Formulation of environmentally sustainable ecotourism models for Indian Sundarbans for livelihood generation and biodiversity conservation
- Long term analysis of atmospheric variables for generating robust weather prediction models
- Inundation modelling and improvised ways of hydrological data handling
- Modelling Urban Sprawl and related environmental effects
- Mapping electoral trends

51. Detail five major strengths, weaknesses, opportunities and challenges (SWOC) of the department.

a. Strength

- i. A Library with more than 20000 books
- ii. GIS, Soil and Geomorphological Laboratories with updated new instruments and softwares.
- iii. Some of the best brains of the country as our students.
- iv. Updated and modern syllabus
- v. Student intake is very small.

b. Weakness

- i. Scarcity of space.
- ii. Faculty is very limited
- iii. Shortage of non-teaching staffs
- iv. One environmental lab with instruments is required.
- v. Unavailability of residential arrangements within the campus.

- c. Opportunities
 - i. Young faculties
 - ii. Location in a prime class I city.
 - iii. Faculty Research and Development Fund
 - iv. New emerging dynamic department.
 - v. Huge capability for concentrated future research.
- d. Challenges
 - i. Managing increasing class number.
 - ii. Conducting adequate field projects with monetary challenges for the students.
 - iii. Absence of internships.
 - iv. Weak campus recruitment
 - v. A section of students coming from vernacular languages.

52. Future plans of the department.

- i. Integrated B.Sc to P.hD course
- ii. Short diploma course in computer programming in GIS and Remote Sensing.
- iii. Tie ups with other research as well as with government organizations.
- iv. Workshop in research methods.
- v. Rural Development through PPP model.

Annexures:

1. List of Research projects in last four years

Sl. No.	Year of Initiation	Year of completion	Funding Agency	PI	Title	Fund sanctioned	Fund received	Completed ongoing
1	2014	2017	Science and Ineering Research Board, DST	Joy Sanyal	Modelling the impact of constructing cascade dams on the evolution of the downstream channel morphology and the risk of dam-break disasters in the Teesta River	21.5 Lakhs	17.5 Lakh	Ongoing
2	2014	2016	Digital Globe Foundation	Joy Sanyal	Modelling the vertical growth of Kolkata	Data Grant in the form of high resolution satellite imageries	N/A	Ongoing
3	2015	Yet to commence	UGC	Koel Roy chowdhury	Improvement of short term urban and peri-urban landcover classification using RISAT – 1 polarimetric images	Rs. 6 lakhs	Rs. 6 lakhs	Yet to commence
4	2015	On going	UGC	Priyank Pravin Patel	Geomorphic Characterisation of the Gangani Tract, chimMedinipur District, West Bengal towards Landscape Mapping, Measurement and Management	Rs. 6 lakhs	Rs. 6 lakhs	Ongoing
5	2015	On going	Digital Globe Foundation	Priyank Pravin Patel	Scale orphological Mapping of a Badland Terrain and Adjacent Stream Corridor for Measuring Gully Network Extension and Riverbank Erosion for Soil Loss Estimation and Agro-Forestry Conservation	Rupees Thirty-one Lakhs (approximately) worth of high resolution satellite images obtained	Rupees Thirty-one Lakhs (approximately) worth of high resolution satellite images obtained	Ongoing

2. List of seminars and conferences organized in the last three years:

Sl. No.	Date/ month	Topic	Source of Funding	Status (local/state/national level) (student enrichment programme)
1	26.08.2014	Scope and dimensions of tourism researches in developing countries like India: A geographer's perspective	University	student enrichment programme
2	11.12.2014	How Does Geography Affect Your Health?	University	student enrichment programme
3	11.12.2014	Political Ecology of Development	University	student enrichment programme
4	11.12.2014	Restructuring Urban Spaces: Planning, Development and Displacement in Contemporary Kolkata	University	student enrichment programme
5	12.12.2014	Why Geography, How Geography: The Relevance of the Discipline in Contemporary Times	University	student enrichment programme
6	12.12.2014	The Ontological Rift and Critical Geography	University	student enrichment programme
7	12.12.2014	The Politics and Poetics of Core and Periphery: The Global and Local Landscapes of Discrimination	University	student enrichment programme
8	22.12.2014	Application of Geographical Techniques in Urban Planning - Lecture One	University	student enrichment programme
9	22.12.2014	Remote Sensing Techniques for Monitoring and Management of Land Use and Land Cover	University	student enrichment programme
10	22.12.2014	Arid Zone Geomorphology and Human Interactions	University	student enrichment programme
11	23.12.2014	Application of Geographical Techniques in Urban Planning - Lecture Two	University	student enrichment programme
12	23.12.2014	Geopolitical Issues regarding the Indian Subcontinent	University	student enrichment programme
13	23.12.2014	Spatial Information Technology in Applied Geomorphological Analysis	University	student enrichment programme
14	21.02.2015	Reframing Urban Tourism	University	student enrichment programme
15	06.04.2015	Monsoon Climate and Climate Change	University	student enrichment programme
16	17.04.2015	A number of papers were presented by different speakers	University	student enrichment programme
17	08.06.2015	Foreign Direct Investment as Neo-Colonialism - The Geography of Power	University	student enrichment programme

3. Seminars/ workshops attended by teachers of the department in last three years (chronologically)

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
1.	Dhiraj Barman	Urban Research workshop	July 2014	Indian Institute of Human Settlement, Bangalore	National	
2	Joy Sanyal	Asia-Oceania Geosciences Society Conference in Sapporo, Japan	28 July - 01 August, 2014	Asia-Oceania Geosciences Society	International	
3	Joy Sanyal	International Geographical Union Regional Conference, Moscow, Russia	17 - 21 August, 2015	International Geographical Union	International	
4	Koel Roy chowdhury	Microwave Remote Sensing and Applications	11 – 22 May, 2015	National Remote Sensing Centre, Hyderabad	National	Participant
5	Koel Roy chowdhury	International Geographical Union Regional Conference, Moscow, Russia	17 - 21 August, 2015	International Geographical Union	International	
6	Priyank Pravin Patel	Short Term Course in Remote Sensing and GIS	30 December, 2015	UGC Human Resource Development Centre (The University of Burdwan)	National	Resource Person and Invited Speaker
7	Priyank Pravin Patel	Spatial Governance for Development, Planning Smart Cities and Disaster Management”.	15-17 December, 2015.	Indian National Cartographic Association (INCA)	International	Co-Chairperson of Session on Historical Cartography and participant
8	Priyank Pravin Patel	Workshop (Pre-Symposium Tutorial) on radar satellite imaging systems	14-15 December, 2015	Indian Society of Geomatics (ISG) and Indian Society of Remote Sensing (ISRS)	National	Participant
9	Priyank Pravin Patel	“Fluvial Geomorphology: Channel Morphology, and River Hydrology with special reference to Impact of Climate Change”	9 December, 2015	Department of Geography, St. Xavier’s College, Burdwan	National	Resource Person and Invited Speaker
10	Priyank Pravin Patel	Workshop on Methodology of Fluvial Research and Software Handling	8 September 2015	Department of Geography, University of Gour Banga, Malda, West Bengal,	National	Invited as Resource Person and Hands-on Software Instructor

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/International)	Role as resource person/invited speaker
11	Priyank Pravin Patel	Basics of Geoinformatics and Landscape Analysis	11 September, 2015	Dept. of Geography, Darjeeling Government College, Darjeeling, West Bengal	National	Invited as Resource Person and Speaker
12	Priyank Pravin Patel	Recent Advances in Geotectonics and Geomorphology and in relation to Landscape Study	10 September, 2015	Dept. of Geography, North Bengal St. Xavier's College, Jalpaiguri, West Bengal	National	Invited as Resource Person and Speaker
13	Priyank Pravin Patel	Workshop on Quantitative Methods for Researchers in Social Sciences	27-31 July, 2015	Institute of Development Studies Kolkata	National	Participant
14	Priyank Pravin Patel	Applications of Geospatial Technology for Sustainable Development	13-14 February, 2015	Dept. of Geography & Applied Geography, University of North Bengal	National	Paper Presenter
15	Priyank Pravin Patel	Using Digital Elevation Models for Terrain Analysis and Drainage Demarcation) at First Winter School on Remote Sensing and GIS	24 December, 2014	Academic Staff College, Burdwan University (ASC-BU), Burdwan	National	Invited as Resource Person and Speaker
16	Priyank Pravin Patel	Pre-Symposium Tutorial on Flood Monitoring and Modelling, ISPRS TC VIII International Symposium	7-8 December, 2014	National Remote Sensing Centre (NRSC), Hyderabad	International	Participant
17	Priyank Pravin Patel	27th Annual Conference of IGI (Indian Institute of Geomorphologists)	14-17 November, 2014.	Indian Institute of Geomorphologists	National	Paper Presenter
18	Priyank Pravin Patel	International Seminar on Environmental Perspectives and Resource Management	19-20 December, 2014.	at Institute of Landscape, Ecology and Ekistics (ILEE)	International	Co-Chairperson and Participant
19	Priyank Pravin Patel	Remote Sensing & Environment	20-22 March, 2014	School of Oceanographic Studies, Jadavpur University, Kolkata in collaboration with Council and Department of Science & Technology, Government of West Bengal	National	Participant and Organiser
20	Priyank Pravin Patel	Contemporary Research in Geography	14-15 March, 2014	Dept. of Geography, Bhairab Ganguly College, Belgharia	National	Paper Presenter

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
21	Priyank Pravin Patel	Land, People and Society	6-7 March, 2014,	Dept. of Geography & Applied Geography, University of North Bengal	National	Paper Presenter
22	Priyank Pravin Patel	Workshop on 'Remote Sensing and Aerial Photography'	12 December, 2013	Dept. of Science and Technology, West Bengal and Dept. of Geography, Loreto College, Kolkata	National	Participant
23	Priyank Pravin Patel	Inclusive Growth and Sustainability	11-12 April, 2013	Dept. of Economics & Geography, Behrampore College and Dept. of Geography, Dumkal College	National	Invited Speaker and Session Chairperson on Rural Development
24	Priyank Pravin Patel	"Environment, Resources & Development"	4-5 March, 2013	Dept. of Geography, Lalbaba College, Belur	National	Invited Speaker
25	Priyank Pravin Patel	"River, Flood and Sustainable Resource Management	23rd February, 2013	Dept. of Geography, University of Gour Banga	National	Paper Presenter
26	Aritra Chakraborty	"Regional Disparity in the Railway Infrastructure in India"	22 – 23 August, 2014	Dept. of Geography, Osmania University	National	
27	Aritra Chakraborty	"Disparity in the Development of Railway Network in North East India"	6-8 November, 2014	Regional Science Association, North East Hill University	National	
28	Aritra Chakraborty	"Indian Geopolitics of Permanent Membership of United Nation Security Council"	17-19 November, 2014	National Association of Geographers India, Dept. of Geography, University of Jaipur	National	
29	Aritra Chakraborty	" Disparity in the Allocation of M.P.L.A.D. Funds in the States of India: A Population Perspective"	19-20 December, 2014	Institute of Landscape Ecology and Ekistics, Dept. of Geography, Calcutta University	International	
30	Soumendu Chatterjee	Dakshin Asiya Upa-Anchaliya Sahayogitar Itihaas-ikaran Banladesh abong Purba Bharater Samaj- Sanskriti o Rajneetir Preskhite	30 May-1st June, 2012	Moulana Abul Kalam Azad Institute of Asian Studies (MAKAIAS)	International	
31	Soumendu Chatterjee	International Conference on "Dimension of Development and Resource Conservation	10-12 March, 2012	Dept. of Geography University of Calcutta, Kolkata.	International	Presented Paper

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
32	Soumendu Chatterjee	IGU Conference on “Geoinformatics For Biodiversity and Climate Change”	14-16, March, 2013	Dept. of Geography, M.D. University, Rohtak, Haryana	International	Presented Paper
33	Soumendu Chatterjee	International Conference on “Climate Change: Present Concerns	23-24 June, 2013	Dept. of Geography, Andhra University, Visakhapatnam	International	Presented Paper
34	Soumendu Chatterjee	XXXIII INCA International Congress on “Integrated Decentralized Planning: Geospatial Thinking, ICT and Good Governance	19 – 21 September, 2013	Central Arid Research Zone (CAZRI), ICAR, Jodhpur	International	Presented Paper
35	Soumendu Chatterjee	XXV National Conference of Indian Institute of Geomorphologist on “Upgrading Technologies and Degrading Earth’s Environment: Reality or Myth”	22-24 December, 2012	Dept. of Geography, University of Allabad		
36	Soumendu Chatterjee	UGC Sponsored National Seminar on “Environment, Resources and Development	March 4-5, 2013	Lalbag College, Belur Math.	National	Resource Person
37	Soumendu Chatterjee	National Seminar on “ Climate Change and Environment Impact Assessment-Indian Perspective”	March 21-22, 2013	Netaji Institute for Asian Studies, Kolkata	National	Invited Lecture
38	Soumendu Chatterjee	National seminar on “Natural Resource Management for Sustainable Development	February 9-10, 2013	Bangiyo Bhugal Mancha	National	Invited Lecture
39	Soumendu Chatterjee	National Seminar on Development and Environmental Transformation	March 28 – 29, 2014	Department of Geography, University of Calcutta	National	Paper Presented
40	Soumendu Chatterjee	National Symposium on “Climate, Society and Sustainability”	April 25 – 26, 2014	Department of Geography, University of Calcutta	National	Invited Lecture
41	Soumendu Chatterjee	UGC Sponsored National Seminar on “Application of Modern Techniques for the Management of Contemporary Environmental Hazards and Disasters	September 5 – 6, 2014	Department of Geography, Haringhata Mahavidyalaya and Institute of Landscape, Ecology and Ekistics, Kolkata	National	Invited Lecture
42	Soumendu Chatterjee	National Seminar on Geomorphology and Geospatial Technology in Environment Management and Societal Development	November 14 – 17, 2014	Department of Geography and Environment Management and Department of Remote Sensing & GIS, Vidyasagar University, Midnapore, WB	National	Paper Presented

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Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
43	Soumendu Chatterjee	UGC Sponsored National Seminar	February 13 – 14, 2015	Department of Geography & Applied Geography, University of North Bengal	National	Paper presented
44	Soumendu Chatterjee	UGC Sponsored National Seminar on “Global Environmental Changes; Issues and Challenges	February 25 – 26 2015	Department of Geography, Egra S S Mahavidyalaya	National	Key Note Address
45	Soumendu Chatterjee	on “Hazard, Development and Social Conflict”	March 27 – 28, 2015	Department of Geography University of Calcutta	National	Presented Paper
46	Soumendu Chatterjee	UGC Sponsored One-day Seminar on “Water Crisis and Mangement”	9th. January 2015	Department of Geography, Subarnarekha Mahavidyalaya	State level	Key Note Address
47	Soumendu Chatterjee	UGC Sponsored National Workshop “Climate Change: Science and Conscience”	Kolkata, 13 June, 2013	Kolkata, 13 June, 2013	National	Resource Person
48	Soumendu Chatterjee	UGC Sponsored Short Term Course For Professional Development of Senior Teachers	26th February - 4th March, 2013	ASC, University of Calcutta	National	Participant
49	Soumendu Chatterjee	in UGC Refresher Course on Environmental Science	December 2, 2014	Academic Staff College The University of Burdwan	National	Speaker
50	Soumendu Chatterjee	Winter School on Remote Sensing & GIS	December 13, 2014	Academic Staff College The University of Burdwan	National	Speaker
51	Soumendu Chatterjee	UGC Sponsored Refresher Course/Orientation Programme	March 6-26, 2013	Academic Staff College, University of Calcutta.	National	Participant
52	Soumendu Chatterjee	A two day workshop on Teachers’ Skill development of H.S. (Council) Geography new syllabus	4th September, 2015	Department of Geography, Seva Bharati Mahavidyalaya, Kapgari	State Level	Lesson Instructor
53	Dr. Suranjana Banerji	35th Indian Geographers’ Meet and International Conference	November 11-13, 2013.	Institute of Indian Geographers (IIG)	International	Speaker
54	Dr. Suranjana Banerji	26th Annual Conference of Indian Institute of Geomorphologists (IGI) on Dynamics of Earth Surface Processes	November 20-22, 2013.	Department of Geography and Department of Geology, Maharaja Sayajirao University of Baroda, Vadodara, Gujrat	National	Speaker

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
55	Dr. Suranjana Banerji	26th Annual Conference of Indian Institute of Geomorphologists (IGI) on Dynamics of Earth Surface Processes	November 20-22, 2013.	Department of Geography and Department of Geology, Maharaja Sayajirao University of Baroda, Vadodara, Gujrat	National	Rapporteur
56	Dr. Suranjana Banerji	36th Indian Geography Congress, Jaipur, on Urban Systems, Rural Livelihoods Security and Resource Management.	November 17-19, 2014.	National Association of Geographers	National	Speaker
57	Dr. Suranjana Banerji	The Eleventh International Conference on Environmental, Cultural, Economic and Social Sustainability	January 21-23, 2015	Common Ground Publishing, University of Illinois	International	Speaker
58	Mery Biswas	35th Indian Geographers' meet and International conference	11-12 November, 2013	Organized by Department of geography, Burdwan University.	International	speaker
59	Mery Biswas	Sustainability, Environment and Society	12-14 December, 2013	Organized by Department of geography, Madras University	National	speaker
60	Mery Biswas	Application of modern techniques for the management of contemporary Environmental Hazards and Disaster	5-6 September, 2014	Haringhata Mahavidyalaya	National	speaker
61	Mery Biswas	23rd Annual International Conference on Geological and Earth Sciences	September 22-23, 2014	Global Science & Technology Forum	International	Speaker in one session and Chair person in another session
62	Mery Biswas	Urban System, Rural Livelihoods Security and Resource Management	17-19 November, 2014	Department of Geography, University of Rajasthan	National	speaker
63	Mery Biswas	Geomorphology and Geospatial Technology in Environment Management and Societal Development	14-17 November, 2014	Department of Geography, Vidyasagar University	National	speaker
64	Mery Biswas	Environment and Physiocultural Perspectives towards resource Management	19-20 December, 2014	Institute of Landscape, Ecology and Ekistics (ILEE) and Department of Geography, - Cailutta University	National	speaker
65	Mery Biswas	Human Impacts on Landscapes	29-31 October, 2015	Department of Geography, North-Eastern Hill University, Shillong	National	speaker

Sl. No.	Name of teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as resource person/invited speaker
66	Mery Biswas	Landform Evolution	15th December, 2015	Department Of Geography, Rishi Bankim Chandra College for Women		Resource person
67	Subhajit Das	Recent Trends in Geographical Research	30th to 31st March, 2013	Foundation of Practising Geographers	National	Paper Presenter
68	Subhajit Das	Environmental Perspectives and Resource Management	19th to 20th December, 2014	Institute of Landscape, Ecology and Ekistics	International	Paper Presenter
69	Subhajit Das	Changing Mountain Environment, Resource Utilization and Sustainable Livelihood	28th to 29th September, 2015	Association of Punjab Geographers	National	Paper Presenter
70	Subhajit Das	Sustainable Planet Earth: Ecological Dimensions and Strategies	17th to 19th October, 2015	Deccan Geographical Society, India	International	Paper Presenter
71	Subhajit Das	Spatial Governance for Development, Planning Smart Cities and Disaster Management	15th to 17th December, 2015	Indian National Cartographic Association	International	Paper Presenter

4. List of publications in papers (peer-reviewed only), Books, Monographs in last four years (year wise and alphabetically)

2012

1. Biswas M. The Tista-Jaldhaka Interfluve, Jalpaiguri District, West Bengal, Geomorphology and Land Use, Journal of Indian Geomorphology . 2012, Vol 1, pp- 32-37.
2. Sarkar, A. and Patel, P.P. 2012, Terrain Classification of the Dulung Drainage Basin. The Indian Journal of Spatial Science, Vol. III, No. 1, Article 6 (www.indiansss.org, ISSN 2249-3921)
3. Banerji, S. 2012. State-owned Sewage-fed Fisheries of the East Kolkata Wetlands: An Overview. Journal Of Humanities And Social Science, 4 (1), pp. 11-17.
4. Charaborty, A 2012. Structural Epistemology and its Perspectives in Geography, Geographical Review of India, v. 72 , Issue 2, p. 204-215
5. Chakrabarty, P., and Das, S. 2012, Disaster forecasting and GIS: A Case Study at Pelling, West Sikkim. Journal of Interacademia, v. 16, no. 2, p. 294-297.
6. Das, S., and Roy, P.K. 2012, Village Tourism in Sikkim, India: A Pre-colonial Approach for Sustainability. International Journal of Social Science Tomorrow, v. 1, no.4, p. 1-6.
7. Mandal, P.K., and Das, S. 2012, Tourism Dynamics in Alipurduar and Its Surroundings, International Journal of Social Science Tomorrow. v. 1, no. 5, p. 1-8

2013

1. Avatar, R., Kumar, P., Surjan, A., Gupta, L.N., Roychowdhury, K., 2013, Geochemical processes regulating

groundwater chemistry with special reference to nitrate and fluoride enrichment in Chhatarpur area, Madhya Pradesh, India. *Environmental Earth Science*, v. 70, Issue 4, p. 1699-1708. (Citation: 10; Impact factor of the journal: 1.765)

2. Sanyal, J., Carbonneau, P., Densmore, A. L., 2013, Hydraulic routing of extreme floods in a large ungauged river and the estimation of associated uncertainties: A case study of the Damodar River, India. *Natural Hazards*, v. 66, p. 1153-1177 (Citation: 8 According to Google Scholar; Impact factor of the journal: 1.719; SNIP2014: 1.19; SJR2014: 0.76).
3. Charaborty, A, 2013 Nature of Linguistic Diversity and Language Concentration in India, *Indian Journal of Regional Science*, v.46, Issue 2, pp. 56-69
4. Das, S. 2013, Beach Quality Assessment: A Study at Puri Municipality Area, Odisha, *Journal of Interacademia*. v. 17, no. 1, p. 116-127.

2014

1. Gupta, L. N., Avtar, R., Kumar, P., Gupta, G. S., Verma, R. L., Sahu, N., Sil, S., Jayaraman, A., Sharma, K., Roychowdhury, K., Mutisya, E., Sharma, K., Singh, S.K., 2014, Multivariate Approach for Water Quality Assessment of River Mandakini at Chitrakoot, India. *Journal of Water Resource and Hydraulic Engineering (JWRHE)*, v. 3, Issue 1, p. 22 - 29. (Impact factor: 1.621)
2. Sanyal, J., Densmore, A. L., Carbonneau, P., 2014, Analysing the effect of land use/cover changes at sub-catchment levels on the downstream flood peak: a semi-distributed modelling approach with sparse data. *Catena*, v. 118, p. 28-40. (Citation: 4 According to Google Scholar; Impact factor of the journal: 2.82; SNIP2014: 1.64; SJR2014: 0.98).
3. Sanyal, J., Densmore, A. L., Carbonneau, P., 2014, 2D finite element inundation modelling in anabranching channels with sparse data: examination of uncertainties, *Water Resources Management*. v. 28, p. 2351-2366. (Citation: 1 According to Google Scholar; Impact factor of the journal: 2.60; SNIP2014: 1.81; SJR2014: 1.52).
4. Sanyal, J., Carbonneau P, Densmore A. L.,2014, Low-cost inundation modelling at the reach scale with sparse data in the Damodar river basin, India, *Hydrological Sciences Journal*. v. 59, p. 2086-2102. (Citation: None; Impact factor of the journal: 1.54; SNIP2014: 0.82; SJR2014: 0.79).
5. Biswas M. Development of Alluvial fans and associated Land use problems of Himalayan FootHills, West Bengal *International Journal of Engineering and Science*. February 2014, Vol 4, No. 2. pp- 25-35, ISSN (e) 0971-4170.
6. Biswas M. River Dynamism and Quasi-Natural Disaster of Kedernath Area, Uttarakhand, *International Journal of Advancement in Research and Technology* .May2014, Vol 3, No. 5. pp- 10-17, ISSN (e)2278-7763
7. Biswas M and Biswas A, Impact Of Feeder Canal On Channel Morphology A Case Study Between Guptipara And Payradanga, West Bengal, India. *International Journal Of Advanced Information Science And Technology*.October 2014, Vol30, No. 30.pp- 147-156 , ISSN (e) 2319 – 2682,Impact factor : 3.564(sjr)
8. Barman, N.K., Chatterjee S., & Khan A. (2014) Spatial Variability of Flood Hazard Risks in the Balasore Coastal Block, Odisha, India. *J Geogr Nat Disast*, 4(1), 1-7. doi: 10.4172/2167-0587.1000120.
9. Barman, N.K., Chatterjee S., & Khan A. (2014) Determining the Degree of Flood Hazard Risks in the Baliapal Coastal Block, Odisha, India: A Quantitative Approach. *Open Journal of Ocean and Coastal Sciences*, 1(1), 1-11. doi: 10.41982/2167-0587.1000875.
10. Bisai, D., Chatterjee, S., Khan, A., & Barman, N.K. (2014) Application of Sequential Mann-Kendall Test for Detection of Approximate Significant Change Point in Surface Air Temperature for Kolkata Weather Observatory, West Bengal, India. *International Journal of Current Research*, 6(2), 5319-5324. ISSN: 0975-833X.

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11. Bisai, D., Chatterjee, S., & Khan, A. (2014) Long Term Trends in Mean Annual Surface, Mean Annual Maximum and Mean Annual Minimum Air Temperatures for Kolkata during 1941-2010. *J Earth SciClim Change*, 5(5), 1-5. doi:10.4172/2157-7617.1000197.
12. Bisai, D., Chatterjee, S., Khan, A., & Barman, N.K. (2014) Statistical Analysis of Trend and Change Point in Surface Air Temperature Time Series for Midnapore Weather Observatory, West Bengal, India. *Hydrol Current Res*, 5(2), 1-7. doi:10.4172/2157-7587.1000169.
13. Bisai, D., Chatterjee, S., Khan, A., & Barman, N.K. (2014) Long Term Temperature Trend and Change Point: A Statistical Approach. *Open Journal of Atmospheric and Climate Change*, 1(1), 32-42. doi:10.4172/2157-7587.1000169.
14. Khan, A., Chatterjee, S., & Barman, N.K. (2014) Book Review: Introductory Dynamical Oceanography. *Journal of Engineering, Computers & Applied Sciences*, 3(2), 18-19. ISSN: 2319-5606.
15. Bisai, D., Chatterjee, S., & Khan, A. (2014) Detection of Recognizing Events in Lower Atmospheric Temperature Time Series (1941-2010) of Midnapore Weather Observatory, West Bengal, India. *Journal of Environment and Earth Science*, 4(3), 61-66. ISSN: 2225-0948.
16. Bisai, D., Chatterjee, and S., & Khan, A. (2014) Determination of Undocumented Change Point in Monthly Average Temperature Time Series (1941-2010) for Krishnanagar Weather Observation Station, West Bengal, India. *International Journal of Engineering Research & Technology*, 3(1), 602-608. ISSN: 2278-0181.
17. Khan, A., Chatterjee, S., & Barman, N.K. (2014) Appraisal of Geodiversity of Kansai-Tangai Interfluves Area (PaschimMedinipur District, West Bengal) using Remote Sensing Data and GIS tools: An Effort to Forward Landscape Management. *Journal of Applied Geology and Geophysics*, 2(2), 39-49. doi: 10.9790/0990-02223949.
18. Khan, A., Chatterjee, S., & Bisai, D. (2014) Book Review: The City and the Coming Climate: Climate Change in the Places We Live. *Journal of Urban and Regional Analysis*, 6(1), 103-108. ISSN: 2068-9969.
19. Chatterjee, S., Khan, A., & Bisai, D. (2014) Detection of Approximate Potential Trend Turning Points in Temperature Time Series (1941-2010) for Asansol Weather Observation Station, West Bengal, India. *Atmospheric and Climate Sciences*, 4(1), 64-69. doi: 10.4236/acs.2014.41009.
20. Khan, A., Chatterjee, S., Bisai, D., & Barman, N.K. (2014) Analysis of Change Point in Surface Temperature Time Series Using Cumulative Sum Chart and Bootstrapping for Asansol Weather Observation Station, West Bengal, India. *American Journal of Climate Change*, 3(1), 83-94. doi: 10.4236/ajcc.2014.31007.
21. Chatterjee, S., & Khan, A. (2014) Morphological Analysis of A Historical Urban Landscape: The Case of Greater Gwalior City, Madhya Pradesh. *Asian Journal of Research in Social Sciences and Humanities*, 4(1), 127-136. ISSN: 2249-7315.
22. Khan, A., Chatterjee, S., & Bisai, D. (2014) Block Level Assessment of Human Vulnerability in PaschimMedinipur District, W.B: Regional Mapping of Social Contours Quantitively. *Journal of Business Management & Social Sciences Research*, 2(11), 5-11. ISSN: 2319 -5614.
23. Dolui, G., Chatterjee, S., & DasChatterjee, N.(2014) Weathering and Mineralogical Alteration of Granitic Rocks in Southern Purulia District, West Bengal, India. *Int. Res.J. Earth Sci.*, 2(4), 1-12. ISSN: 2321–2527.
24. Laha, A., Chatterjee, S., & Bera, K. (2014) Flood Hazard Impact Assessment on Societal Perspective: Case Study of Lower Catchment of Kalighai-Baghai and Kapaleswary River. *International Multidisciplinary e – Journal*, 3(4), 107-115. ISSN: 2277-4262.
25. Banerji, S., 2014. Sewage-fed fisheries under Private Ownership in the East Kolkata Wetlands: A Case Study. *International Journal of Advancements in Research and Technology*, 3(6), pp. 24-34.
26. Sengupta, S. Banerji, S., 2014. Prevalence of dry eye diseases in a rural and urban population in West Bengal and the role of air pollution. *Journal of Environmental Science, Toxicology and Food Technology*, 8 (6), pp. 45-50.

2015

5. Biswas M and Biswas A, Gis Based Semi-Quantitative Morphological Analysis Of Kankuram Basin ,Ghatsila, International Research Journal Of Natural And Applied Sciences (Irnas). 2015, ISSN (e) : 2349-4077, Impact factor : 1.983(sjr)
6. Biawas. A and Biswas M, Morphometric And Landuse And Landcover Change Analysis Of Lokjuriya River Basin, Jharkhand, India Using Remote Sensing And Gis Technique. IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 20, Issue 7, Ver. V (July 2015), PP 77-85 e-ISSN: 2279-0837, p-ISSN: 2279-0845.
7. Das.SDali.K and Biswas M, Impact Of Metro Extension Over TollyNullah On SocioeconomicBehevoiriurial Changes- A Case Study Between Tollygunge And KaviSubhas Metro Station, Kolkata,Journal Of International Academic Research For Multidisciplinary Impact, Issn: 2320-5083, Volume 3, Issue 8, September 2015, Factor 1.625.
8. Biswas M. Impact Of Neotectonism In The Discussion Of Geomorphological Processes As A Feedback System: North Bengal Foothills, West Bengal, GSTF Journal of Geological Sciences Volume2,number1,July 2015, ISSN: 2335-6774, E-periodical: 2335-6782
9. Haque, I. and Patel, P.P. 2015. Socioeconomic and Cultural Differentials of of Contraceptive Usage in West Bengal: Evidence from National Family Health Survey Data. in Journal of Family History, Vol. 40, pp. 230 - 249. (Impact Factor: 0.068 - Thomson Reuters, 2015)
10. Datta, D. and Banerji, S., 2015. Local tourism initiative in an eastern Himalayan village: sustainable ecotourism or small-scale nature exploitation? In: Szymańska, D. and Rogatka, K. editors, Bulletin of Geography. Socio-economic Series, No. 27, Toruń: Nicolaus Copernicus University, pp. 33–49. DOI: <http://dx.doi.org/10.1515/bog-2015-0003>
11. Banerji, S., and Mitra, D., 2015, Conscious Hydrocide of Urban Waters – A Solution through Ehics and Economics of Sustenance: A Study of Salt Lake City, Kolkata. The International Journal of Environmental Sustainability, v. 11, Issue 4, p. 21- 45.

List of conference publications last four years(Year wise and alphabetically)

2012

1. Bhandari, L. & Roychowdhury, K. 2012. Night Lights and Economic Activity in India: A study using DMSP-OLS night time images. Asia-Pacific advanced Network (APAN) Workshop. New Delhi, India. (National) (Invited speaker)
2. Roychowdhury, K., Jones, S.J., Arrowsmith, C. & Reinke, K. 2012. Night-time lights and levels of development: A Study using DMSP-OLS Night-Time Images at the Sub-National Level. In: XXII ISPRS Congress, 25 August – 01 September 2012 Melbourne, Australia. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 93-98. (International) (Invited speaker)
3. Chakrabarty, P. and Das, S. (2012), “Disaster forecasting and GIS: A Case Study at Pelling, West Sikkim”, in ‘Journal of Interacademia’, Vol. 16, No. 2.
4. Das, S. and Roy, P.K. (2012), “Village Tourism in Sikkim, India: A Pre-colonial Approach for Sustainability” in ‘International Journal of Social Science Tomorrow’, Vol. 1, No. 4.
5. Das, S. Mandal, P.K. Ghosh, A. (2012), “Habitat, Society and Economy: A Study at Dzongu, North Sikkim”, in ‘Indian Journal of Landscape Systems and Ecological Studies’, Vol. 35, No. 2.
6. Mandal, P.K. and Das, S. (2012), “Tourism Dynamics in Alipurduar and Its Surroundings”, in ‘International Journal of Social Science Tomorrow’, Vol. 1, No. 5.
7. Sahu, A., Chatterjee, S., & Paul, A.K. (2012) Change in Cropping Pattern - A Temporal and Spatial Analysis in PurbaMedinipur District, W.B. Geographical Review of India.74(1), 17-26. ISSN: 0375-6386.

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2013

1. Herath, S., Abayakoon, S., Mishra, B., Woldie, D., Roychowdhury, K. 2013. Landslide Risk Assessment for Developing Community Resilience. Srilanka – Japan Collaborative Research (SLJCR) 2013; 29th – 31st March, 2013 (National) (Invited speaker)
2. Roychowdhury, K., Jones, S. D. 2013. Health Atlas of India: Study using night time satellite images. International Conference on Geospatial Momentum for Society and Environment: AGSE2013, 16-19 December 2013 (Organised by CEPT University, Ahmedabad, India) (National) (Invited speaker)
3. Patel, P.P. 2013, GIS Techniques for Landscape Analysis - Case Study of the Chel River Basin, West Bengal. in Proceedings of State Level Seminar on Geographical Methods in the Appraisal of Landscape, Dept. of Geography, Dum Dum Motijheel Mahavidyalaya, Kolkata, 20th March, 2012, pp. 1 – 14
4. Das, S. (2013), “Beach Quality Assessment: A Study at Puri Municipality Area, Odisha”, in ‘Journal of Interacademia’, Vol. 17, No. 1.
5. Das, K., Bera, K., & Chatterjee, S., (2013) Management of Water Resources in Urban Context of Contai Municipality Using Geoinformatics, West Bengal, India. International Multidisciplinary E-Journal, 2(2), 7-16. ISSN: 2277-4262.
6. Das, N., Chatterjee, S., & Roy, U. (2013) Habitat Based Ecological Analysis of Urban Space: An Appraisal for Gangtok Town, Sikkim. Journal of Ecology, Environment and Conservation. 19(3) 707-715. ISSN: 0971-766X.

2014

1. Roychowdhury, K., 2014. India and the Millennium Development Goals (MDGs): Modelling health and development from satellite images at the subnational level. In: Ames, D.P., Quinn, N.W.T., Rizzoli, A.E. (Eds.), Proceedings of the 7th International Congress on Environmental Modeling and Software, June 15-19, San Diego, California, USA. (International) (Invited speaker)
2. Biswas, M. Neotectonic and Geomorphology-A positive feedback system of North Bengal Foot hills, West Bengal. 23rd International Conference of geological and Earth Science, Singapore, September 22-23, 2014. pp- 25-32
3. Chakraborty, A., “Regional Disparity in the Railway Infrastructure in India”, National Conference, Osmania University, Hyderabad, August 22-23, 2014. pp-28-39

2015

1. Chatterjee, S., Patel P.P. “Quantifying Landscape Structure and Ecological Risk Analysis in Subarnarekha Sub-watershed, Ranchi”, Proceedings of UGC Sponsored National Seminar on Applications of Geospatial Technology for Sustainable Development, (University of North Bengal, Siliguri, February 13-14, 2015) (paper accepted)
2. Mondal, S., Sarkar, A., Patel P.P. “Causes of Drainage Congestion in Moyna Block, Purba Medinipur, West Bengal”, Proceedings of UGC Sponsored National Seminar on Applications of Geospatial Technology for Sustainable Development, (University of North Bengal, Siliguri, February 13-14, 2015) (paper accepted)

Synopsis of Publications:

Publications		2012	2013	2014	2015	Total
Paper (peer – reviewed)	National	2	2		1	5
	International	2	2	7	4	15
Books & Monographs	National			3		3
	International					
Articles in magazine/Newspaper		1	3	1		5

5. Names of students with outstanding achievements and placements for higher studies (last four years)

Students joining other Institutions for further studies after M.Sc. / B.Sc. **Tanusri Dutta, Adrita Banerjee** and **Devrupa Gupta** (all for M.P.S., IIPS, Mumbai); **Rupsa Chakraborti** and **Pinky Rome** (both for M.Plan, SPA, Bhopal); **Dibyendu Biswas** and **Pintu Kabiraj** (both for M.Phil., IDSK, Kolkata); **Sayantani Mukherjee** (for PhD, Trinity College, Dublin); **Sayoni Mondal** (for PhD, Presidency University, Kolkata); **Koushik Bhui, Anindita Chakraborty, Chandrima Nandy, Asit Kumar Biswas** and **Rimpa Bhattacharjee** (all for B.Ed. studies), **Pooloma Ghosh** and **Priyanka Saha** (both for MA, JNU, New Delhi); **Ipsita Chanda** (for MA, DSE-DU, New Delhi); **Sayanangshu Modak** (for M.Sc., TISS, Mumbai)

Students placed in professional positions (only from Postgraduates) **Indrita Saha** (Assistant Professor, Darjeeling Government College, Darjeeling, WBES-PSC), **Partha Das** (Assistant Professor, A.B.N. Seal College, Koch Bihar, WBSES-PSC), **Sriparna Surai** (Ram Mohan College, Kolkata), **Madhurima Hait** (Teacher, Salt Lake CA School, Kolkata), **Saswata Pandey** (LIC, Kolkata), **Srija Ghosh** (Teacher, South End Centre School Kolkata), **Sonali Adhikari** (Editor, Ray & Martin Publishers, Kolkata), **Sanchari Saha** (Editor, ChayaPrakashani, Kolkata), **Binoy Chand** (CSO, ICICI Bank), **Partha Hawladar** (Axis Bank); **Koushik Bhui** (Advertisement Publisher, Google); **Dharitri Ganguly** (SBI)

6. Special Assistance Received by the department (last four years)

Scheme	Year of Sanction	Fund Sanctioned
DST – FIST	2015	55,00,000
CAS – UGC		
DBT		
Any other (State Govt.)	2014	38,00,000
Total		93,00,000

A Brief History of the Department:

The Department of Geography has been functioning since 1949. Initially, intermediate, pass and honours courses were introduced with part-postgraduate facilities. Full-fledged independent Postgraduate teaching began in 2001 with subsequent academic autonomy in 2004. Semester System with new syllabus was introduced in 2011 under the unitary University Status (2010), and the syllabus content has been completely restructured and revised from the 2014-15 Session onwards. The department has also commenced its PhD Programme from 2014 onwards. The Geographical Institute, a society of the past and present students and faculty was formed in 1970, and it organizes various departmental co-curricular activities. The departmental seminar library, set up in the late 1950s, contains over 2000 books and back-volumes of several national and international journals.

Evaluative Report of the Department: Geology

1. Name of the Department : GEOLOGY

2. Year of establishment : 1892

3. Is the Department part of a School/Faculty of the university? :

- Faculty of Natural and Mathematical Sciences

4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) :

- BSC (Hons) in Geology
- MSc in Applied Geology
- PhD (Science) (Geology, Env Science)

5. Interdisciplinary programmes and departments involved :

The Departments interdisciplinary programmes at undergraduate and doctoral levels:

- At the undergraduate level, there are four courses for each semester for first two years in the GENED programme of the BSc degree course. The courses are offered to students of both science and humanities faculties.
- At the PhD level, department offers interdisciplinary Environmental Science programme. The programme is open to all science graduates with chemistry as one of the subjects and a Master's degree in Env Sc or Geology.

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

- Summer project is mandatory for M.Sc. 1st year students. This project is usually carried out at different national level universities, institutes or industries. From the current academic year, students are also doing summer internship or Master's dissertation programme in collaboration with Hiroshima University as per MoU.

7. Details of programmes discontinued, if any, with reasons

- Environmental Science Master's programme has been temporarily withdrawn. The programme will resume with new faculty joining.

8. Examination System: Annual/Semester/Trimester/Choice Based Credit System

- The Department follows the CBCS semester system.

9. Participation of the department in the courses offered by other departments

- The faculty members of the department currently teach a particular module in Geography honours course. It has been planned to increase the interdepartmental faculty exchange between Geology and Geography particularly in common areas of the curriculum such as: in RS-GIS, Cartography and Projection system, Petrology and Geodynamics.

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	6	1	1
Associate Professors	5	5	5
Asst. Professors	19	1	1
Others		3	3

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Prof. Joydip Mukhopadhyay	PhD	Professor	Sedimentology	27	6
Dr. Gautam Ghosh	PhD	Associate Professor	Structural Geology	26	6
Dr. Arijit Ray	PhD	Associate Professor	Igneous Petrology	26	3
Dr. Sankar Bose	PhD	Associate Professor	Metamorphic Petrology	17	2
Dr. Kalyan Halder	PhD	Associate Professor	Paleontology	17	3
Dr. Nilanjan Dasgupta	PhD	Associate Professor	Structural Geology	17	2
Dr. Gautam Deb	PhD	Assistant Professor	Structural Geology	13	1
Arunava Basu	MSc	Associate Professor	Geohydrology	29	
Dr. Supriya Das (UGC-FRP)	PhD	Assistant Professor	Environmental Geology	3	
Dr. Nilanjana Sorcar (DST-INSPIRE)	PhD	Assistant Professor	Metamorphic Petrology	2	

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors - NIL

13. Percentage of classes taken by temporary faculty – programme-wise information

Particulars	UG	PG	Research
Percentage of classes by temporary faculty	NIL	15	5

14. Programme-wise Student Teacher Ratio

- Ratio of Students to teachers: **UG: 7:1 PG: 4:1**

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15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Departmental Staff	Sanctioned	Filled	Actual
Technical		3	
Administrative		4	

16. Research thrust areas as recognized by major funding agencies

- In recognition of the long contribution in research of this department, the University Grants Commission, Govt. of India, has sanctioned the Centre for Advanced Studies (CAS) programme in the thrust area of “**Precambrian Crustal Evolution & Metallogeny**” for two successive terms from 2007 to 2018.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. (Synopsis to be given here and full List in annexure)

Funding Agency	No. of Projects	Fund received (last 2-years)
UGC	1	600000
DST	12	26155510
CSIR	1	350000
MOES	2	3256750
BRNS	2	5924500
Total (ongoing)	18	3,62,86,760

- Number of faculties with ongoing National projects: 9
- Number of faculties with ongoing International projects: 3
- Total grants received: Rs. 3.62 crores

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration b) International collaboration

1 (BESUS now IEST)-	Rs. 18 lakhs	1 (Trinity College, Dublin)-	Rs. 6.0 lakh
1 (Jogomaya Devi College)-	Rs. 19.5 lakhs	1 (Hiroshima University, Japan)-	Rs. 6.98 lakh
1 (Ashutosh College)-	Rs. 13.5 lakhs	1 (Fed University, Brazil)-	Rs. 30.07 lakhs
(IODP)-	Rs. 2.0 lakh		

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

Scheme	Year of sanction	Duration	Fund Sanctioned
DST-FIST	2009-10	2014-15	13200000
CAS-UGC	2012-13	2017-18	15000000
Total			2,82,00,000

20. Research facility / centre with

- **state recognition :**

Petrological Laboratory named after late Prof. Ajit Saha and inaugurated by former Higher Education Secretary Dr. Jwahar Sorcar

- **national recognition :**

- The department has successfully completed the first phase of DST-FIST programme in 2009.
- The department has successfully completed the second phase of DST-FIST programme in 2014.
- The University Grants Commission, Govt. of India, has also sanctioned the Centre for Advanced Studies (CAS) programme in the thrust area of “Precambrian Crustal Evolution & Metallogeny” for two successive terms from 2007 to 2018.

- **international recognition :**

The department witnessed a significant increase in international collaborations as follows:

- DST-supported Indo-Brazil collaboration and exchange visits by faculty members and research scholars.
- DST-supported Indo-Japan project and exchange visits by faculty members and research scholars.
- Visit by Faculty members to Trinity College, Dublin on invitation and exchange program of an international collaborative project.
- Faculty took part in International Ocean Drilling Project organized by NCAOR, Goa in collaboration with IODP, an international research consortium.
- MoU was signed with the Hiroshima University for collaborative research programmes and student exchange.
- Three JRFs visited Hiroshima University for a brief training in analytical techniques.
- Four more students from the third semester PG-course visited the Hiroshima University to use advanced analytical equipment related to Dissertation work.
- Similar student exchange programme is initiated with Orebro University, Sweden
- Another MoU with Shinshu University, Japan is under consideration at present

21. Special research laboratories sponsored by / created by industry or corporate bodies

- Remote Sensing and GIS Laboratory funded by Coal India Ltd.
- The department looks forward to major funding from various central agencies such as BRNS, MoES for upgradation of analytical facilities. The department in recent times defended two such major funding proposals through coordinated research programmes.

22. Publications: (List in annexure)

- Number of papers published in peer reviewed journals (national / international) - 31
- Monographs
- Chapters in Books- 2
- Edited Books
- Books with ISBN with details of publishers
- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

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- Citation Index – range / average Range: 0 – 80
- SNIP- Range: 0.39 – 2.089
- SJR- Range: 0.29 – 2.744
- Impact Factor – range / average: Range: 0.00 – 6.023
- h-index - Range: 1– 13

23. Details of patents and income generated : Nil

24. Areas of consultancy and income generated

The department successfully completed two consultancy projects in the year 2013-2014.

- Project with SGS Industries generated an amount of 0.72 lakh
- Project with ONGC generated an amount of Rs. 7.6 lakh

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

Prof. J. Mukhopadhyay:

- Visiting Professorship, University of Johannesburg (2010-2016)
- Collaborative Indo-Brazil research programme in Federal University of Minas Gerais, Brazil
- Collaborative research programme with Trinity College Dublin, funded by FEMS, TCD.
- TATA STEEL, OMC, ESSEL Mining

Dr. S. Bose:

- Visiting Scientist, Hiroshima University, 2014-2015, Indo-Japan bilateral collaboration
- Visiting Scientist, Yokohama National University, 2013, Indo-Japan bilateral collaboration

Dr. G. Ghosh

- Visiting Scientist, Hiroshima University, 2015
- Research programme with Trinity College Dublin, funded by FEMS, TCD.

Dr. Supriyo Das

- Visiting Scientist, Stockholm University Sweden, participated in the International Ocean Drilling Project program organized jointly by NCAOR, Goa and IODP

26. Faculty serving in

a) National committees:

- Prof. J. Mukhopadhyay, Expert member UGC-CAS Committee
- Dr. N Dasgupta is an invited member of the group of scientists constituted by ISRO to work with Mars Orbiter Mission Data

b) International committees :

- Dr. S Bose is currently acting as the Chairperson of the East Chapter of the Indian JSPS Alumni Association.

c) Editorial Boards

d) any other (please specify) :

Reviewers in International Journals:

- Prof. J. Mukhopadhyay:

Economic Geology, Ore Geology Reviews, Asian Journal of Earth Sciences, Australian Journal of Earth Sciences, Sedimentary Geology, South American Journal of Earth Sciences, Spl Publ Geol Soc London, Journal of the Geol Soc of India

- Dr. Kalyan Halder

Journal of Earth System Science, Journal of the Geological Society of India

UG and PG BOS of other universities:

- Prof. J. Mukhopadhyay: Member BOS in Geological Sciences, Jadavpur University, PG BOS in Kazi Nazrul Islam University, Asansol, Member Faculty of Science, Nagaland University, Kohima, Member Expert Committee on Curricular Design in Geology North Bengal University

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- Workshop attended by Dr. Supriya Das organized by Schlumberger Limited

28. Student projects (List in annexure)

- percentage of students who have done in-house projects including inter-departmental projects
- percentage of students doing projects in collaboration with other universities / industry / institute
- All the students (100%) carry out in-house projects under the M.Sc. dissertation paper
- All the students (100%) carry out summer projects in collaboration with other universities/industries/institutes.

29. Awards / recognitions received at the national and international level by

- Faculty :

Prof. J. Mukhopadhyay:

- INSA Teachers Award 2015;
- Visiting Professorship, University of Johannesburg (2010-2016)
- National Mineral Award-2008 (Recvd in 2010)

Dr. S. Bose:

- National Geoscience Award: 2014

Dr. G. Ghosh

- Visiting Scientist, Hiroshima University, 2015
- Doctoral / post doctoral fellows
- **Dr. Susmita Guha** was awarded the best poster presentation award at the National Seminar held at Presidency University in November, 2014
- Two research scholars (**Proloy Ganguly and Sneha Mukherjee**) received special research grant from **Hiroshima University, Japan** to visit and work in laboratories for a period of two weeks (March, 2015).

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- One research scholar (**Arnab Dasgupta**) visited the same university as a part of **DST-JSPS bilateral** project.
- Another research scholar (**Saheli De**) visited the Fed University of Minas Gerais, Belo Horizonte, Brazil as a part of DST-Brazil Govt. bilateral project.
- Students
 - Four **PG 1st year students** visited **Hiroshima University, Japan** under the **SAKURA** programme for three weeks in December 2015.
 - One PG 2nd year student (**Santanu Ghosh**) visited organic geochemistry facility at the **Orebro University, Sweden** for four weeks in 2014.

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any. (List in annexure)

- The Department organized a National Seminar on “The Making of the Indian Continent” on 7-8 November 2014. More than 120 delegates attended the seminar from all over India.
- Invited Talks/Lectures
 1. “Research opportunities in Japan” by Prof. Hiroshi Hidaka, Earth and Planetary Systems Science, Hiroshima University, Japan on November 24, 2015.
 2. “The hypogene Fe mineralization in the Quadrilatero Ferrifero; mineralogical, textural and microchemical changes” by Prof. Carlos Alberto Rosiere, Federal University of Minas Gerais, Belo Horizonte, Brazil on December 22, 2014.
 3. “Meteorites: The poor Man’s Space Probe” by Dr. Basab Chattopadhyay, Director, Central Petrological Laboratory, Geological Survey of India on September 19, 2014 on the occasion of the 38th Prof. S. Ray Memorial Lecture organised by the Geological Institute.
 4. Prof. S Bardhan, S Roy Memorial Lecture, 2015 on ‘Darwin Today’
 5. Prof. D Duari, Director, Birla Planetarium, 2015, on ‘Mission to Mars

31. Code of ethics for research followed by the departments

- The department follows the standard code of ethics as practised in the university. The general principles for checking plagiarism have been introduced. Students and researchers are given the authorship for their contribution in Master’s or project-based research contribution. Department also promotes collaborative joint projects among the faculty members in areas of common interest and for the requirement of specific expertise for comprehensive solution of a problem. The authorship is shared and order of authorship is decided based on relative contribution.

32. Student profile programme-wise :

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
UG-I (2015-16)	848	18	12	100	100
PG-I (2015-16)	107	15	08	100	100
UG-I (2014-15)	1100	19	04	100	100
PG-I (2014-15)	244	14	07	100	100

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
PhD (2014-15)	62	05	09	100	100
UG-I (2013-14)	893	15	07	100	100
PG-I (2013-14)	130	12	07	100	100

33. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of from universities outside the State	students from other countries
PG	35	65		
PhD	80	20		

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- Students of this department are well accepted by all the private and public sector employers, universities and research institutes in India and abroad. Our students who graduate from this department pursue higher studies in science as well as technology disciplines of the top-class universities and IITs in the country. Many of them pursue further research and teaching careers. The main employers for the students remain Geological Survey of India, Oil and Natural Gas Commission, Mineral Exploration Corporation Ltd., Atomic Minerals Directorate, Steel Authority of India Ltd., Coal India etc. Private sectors include multinational companies in Oil and Gas sectors, companies in mineral explorations, environmental and water resource managements, Remote Sensing and GIS, iron and other metal mining etc. Following is their performances in national level examinations for last few years

National/State Level Exam	2012	2013	2014	2015	Total
NET	5	3	2	4	14
GATE	4	5	4	8	21
INSPIRE			2	1	3
Others (GSI, Private sector)	5	7	6	3	21

35. Student progression (List in annexure)

Student progression	Percentage against enrolled
UG to PG	100
PG to M.Phil.	-
PG to Ph.D.	15
Ph.D. to Post-Doctoral	5
Employed	
• Campus selection	25
• Other than campus recruitment	60
Entrepreneurs	-

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36. Diversity of staff

Percentage of faculty who are graduates	
of the same university (Presidency College)	80%
from other universities within the State	20%
from universities from other States from	
universities outside the country	

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

Nil

38. Present details of departmental infrastructural facilities with regard to

a) Library

Books in the department library : **1050**

Journals/periodicals subscribed by the department : **04**

Computers in the department : **48**

b) Internet facilities for staff and students - Available

c) Total number of class rooms - 7

d) Class rooms with ICT facility - 5

e) Students' laboratories - 5

- The Student laboratories of the Geology Department are well equipped for basic undergraduate to postgraduate teaching as well as research at highest level. Basic equipment for teaching including petrological and paleontological microscopes, rock-cutting saw, grinder, thin slice cutter as well as polishing laps for polished thin-section preparation are available in the department. The department has a rare collection of fossil specimens representing micro and mega-fauna, palaeoflora and palynological specimens. The department provides essential field gear and camping equipment to students and researchers.

f) Research laboratories

- Scanning Electron Microscope (SEM) with EDS facility
- X-ray Fluorescence (XRF)
- Jaw Crusher, Pulverizer and Disc Mill for sample preparation
- Mineral separation laboratory with Isodynamic Barrier Separator
- High Resolution Petrological, Ore and Paleontological Microscopes including NIKON and LEICA-DMPLP petrological microscopes with photomicrographic attachments and digital image analysis software
- Remote Sensing Laboratory with ERDAS and ARC-INFO RS-GIS softwares
- High quality carbon coating instrument (Leica EM ACE200)
- Sample processing Laboratory (thin sectioning, sample polishing and rock pulverization)
- Central Computer Laboratory with internet facility

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university

Doctoral Students:

1. Tusharmouli Chakraborty
2. Sneha Mukherjee
3. Paramita Das
4. Saheli De
5. Keyur De
6. Proloy Ganguly
7. Arnob Mondal
8. Rana Bandyopadhyay
9. Sumit Dey

Post-doctoral Students:

1. Piyali Sengupta
2. Aditi Mondal
3. Sampa Ghosh

b) from other institutions/universities

Doctoral Students:

1. Bhaskar Ghosh, Jogamaya Devi College, Kolkata
2. Arnab Dasgupta, Manbazar Govt. College, West Bengal
3. Kalyan Chakraborty, AMD, Bangaluru
4. Brundaban Misra, AMD, Shillong
5. Ipsita Ghosh, GSI
6. Biplab Chakraborty, GSI, Kolkata
7. Sayantini Pramanik, GSI, Ranchi

40. Number of post-graduate students getting financial assistance from the university.

NA

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- Since the inception of the university, the Geology degree courses at both UG and PG levels have been revised twice. Each time a thorough assessment was carried through deliberations in the Board of Studies. External experts were invited for their opinion in workshops for syllabus modification. The faculty members associated with state level and national level selection processes assess the requirement. Regular interaction with mining industry also yields inputs for practical and job oriented direction of the UG-PG programmes.

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42. Does the department obtain feedback from

- a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
 - Department utilizes feedback from faculty in periodic revision of the course structure.
- b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
 - Feedback form is obtained from students after semester examinations and is processed centrally at University office.
- c. alumni and employers on the programmes offered and how does the department utilize the feedback?
 - We obtain advices and suggestions from alumni and employers to change and formulate course structures periodically.

43. List the distinguished alumni of the department (maximum 10)

1. Prof. N. N. Chatterjee, Former Head, Department of Geology, Calcutta University
2. Prof. S. N. Sen, FNA, Former Head, Department of Geology, Calcutta University
3. Prof. A.K. Banerji, Former Head, Department of Geology, Calcutta University
4. Prof. A. De, Former Head, Department of Geology, Calcutta University
5. Prof. S. K. Sen, FNA, Former Head of the Department of Geology & Geophysics, IIT, Kharagpur
6. Prof. A. Mookerjee, FNA, Former Head of the Department of Geology & Geophysics, IIT, Kharagpur
7. Prof. K. Naha, FNA, Former Head of the Department of Geology & Geophysics, IIT, Kharagpur
8. Prof. S. N. Sarkar, FNA, Ex-Director, ISM, Dhanbad
9. Prof. S. Roy, FNA, Head of the Department of Geological Sciences, Jadavpur University
10. Prof. S. K. Ghosh, FNA, Department of Geological Sciences, Jadavpur University

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts. (List in annexure)

- o The Semester system was introduced in both UG and PG courses in 2010.
- o The curriculum was designed in a fashion so that one gets both the breadth and depth of the subject
- o Ample space has been provided for project work, assignments and seminars
- o The subjects are arranged in different compulsory and elective modules, especially in PG. The elective modules encompass modern practices and state-of-the-art knowledge in all the branches of Earth Sciences and their applications. Students can choose the elective modules of their preferences depending on their career goals.
- o Compulsory modules are so planned that a student can get an overview of the subject. Core branches of Geology, their fundamental principles and primary information are dealt with here.
- o Industrial training as a part of the PG curriculum is retained from the previous syllabus so that a student gets hands-on training in application aspects of the subject. Students are further encouraged to do project work in industry during inter-semester breaks in the regular classes for more exposure.

- o Basics of research methodology, especially pertaining to geological investigations, have been introduced in the PG curriculum so that this course can act as the first step towards higher studies.
- o Students are encouraged to discuss with respective faculty members beyond classes in the run up to the preparation of assignments and seminars. Often they choose their own topics, which can represent interfaces of Geology with many other subjects.
- o A unique feature of the curriculum is the GenEd course where UG students from other disciplines including social sciences streams take a paper in Geology. Such topics of Earth Sciences are offered here that cater to the general knowledge of the Earth System - fundamental processes that are and were operative in the Earth and Biosphere.
- o Series of meetings, some with invited senior colleagues from other premier institutes, were convened to formulate this structure of the curriculum.

45. List the teaching methods adopted by the faculty for different programmes.

- Traditional blackboard-chalk method
- use of digital powerpoint projection
- seminar workshop by students
- interactive sessions
- rigorous fieldwork programme
- geological mapping
 - Personal interactions beyond class hours, checking assignments, conducting class tests, student seminars, & field excursions. Special emphasis is given on field training. Best performer in fieldwork is awarded a cash prize.
 - Faculty enrich themselves through consulting new books; consulting journals in different libraries and through the Internet; attending seminars, symposia and workshops, refresher courses, training programmes; direct interactions with colleagues, co-workers and teachers of different universities in the city, country and abroad, and interactions with professionals from industries.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Programme efficiency is regularly discussed at several levels:

- at individual class level by the teacher concerned and the students participating to assess the need of the slow and advanced learners
- Periodic class tests, assignments, seminars by students
- Student-teacher Committee interaction
- End Semester examinations
- Practical courses with continuous assessment
 - Since Geology is not taught at school level, the university curriculum has a course for the beginners in the honours syllabus. Introduction to Geology course for the first six months in the first year honours class ensures that students coming from different streams get adequate exposure to the basic domain of the subject.

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- o Tutorial classes, and individual assignments provide necessary remedial measures for slow learners.
- o Slow learners are encouraged to discuss their difficulties with respective teachers at individual levels outside class hours.
- o Seminars and special lectures are arranged frequently in the department delivered by eminent scholars from various parts of the world not only to enrich the advanced learners but also to expose all students to new frontiers of the subject.

47. Highlight the participation of students and faculty in extension activities.

- o All the faculty members have ongoing projects funded by different agencies.
- o Teachers are taking up new projects in challenging areas to contribute to the global database and knowledge in Geology and other streams of Earth Sciences.
- o Consultancies are carried out by the faculty members with organizations such as ONGC, SGS.
- o Faculty members are in interaction with industries like mining companies, oil & gas and exploration companies. Teachers present talks at mines and provide academic support in the form of reports & discussions to the mining professionals without any consultancy charges as per the present norms of the institute.
- o Seminars are organised regularly in the department.
- o Students are strongly involved in the organization of departmental seminars on topics of broad interests.
 - √ Students are actively involved in the functions of SPE and AAPG student chapters.
 - √ Bhuvvidya and Geological Institute
 - √ SPE and AAPG
 - √ Quiz etc.
 - √ Games and Sports (intradepartmental)
 - √ Seminar organization
- o Students regularly take part in the geological programmes organised by other institutes, e.g., IIT, IISER, ISM, IISc.
 - The department nourishes a healthy and intimate teacher-student relationship. The traditional pedagogy of the department inculcates elements of research in young minds. The students are encouraged to express their scientific pursuits through various activities organized round the year under the aegis of a student body, the Geological Institute. The Geological Institute of the department is the oldest students' academic forum in the country and has remained the pride of the department since 1905. The students of this department are encouraged to express their academic interests through activities like quiz, seminars, slide shows and discussions under the umbrella of the Institute. The activities culminate to an Annual General Meeting where the departmental alumnus gets a chance to mingle with the young minds and help us to carry the flame forward. Conventionally, the office bearers of the Institutes are our present students who work under the able guidance of the faculties of the department. The institute publishes a yearly journal Bhuvvidya, the contents of which are mostly written by students with the purpose of looking and knowing beyond the syllabus. Last year 55th volume of Bhuvvidya was published.

48. Give details of “beyond syllabus scholarly activities” of the department.

The faculty members are actively engaged in different activities:

- Regular attendance at seminar/conference/workshops
- Resource person or invited speaker in national and international seminars

- reviewing manuscripts in reputed international journals
- regular research programmes funded by nodal agencies such as CSIR, DST, UGC, BRNS, MoES.
- Acting as committee members in national bodies, international societies (JSPS)
- Expert panel members/paper setters for PSC, CSC, UPSC examinations
- Regular interaction with mining industries
- Consultancy with industry
- Visiting scientist/Professor in Universities abroad.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

- Annual assessment by UGC-CAS expert
 - Periodic assessment by DST-FIST
 - Annual Report (University peers, Alumni, Guardians and students)
 - Peer review for research publications
 - Mid-term progress and final report for research projects by funding agency peers.
- ▶ The department successfully completed the first phase of DST-FIST programme in 2009. In appreciation of the successful completion of the first phase of FIST programme, the DST has recommended second phase FIST for the next five years. In recognition of the contribution in research the University Grants Commission, Govt. of India, has also sanctioned the Centre for Advanced Studies (CAS) programme in the thrust area of “Precambrian Crustal Evolution & Metallogeny” for two successive terms from 2007 to 2018. This year the department witnessed a significant increase in international collaborations. DST-supported Indo-Japan project was initiated and MoU was signed with the Hiroshima University for collaborative research programmes and student exchange. Three JRFs visited Hiroshima University for a brief training on analytical techniques. Four more students from the third semester PG-course will visit the Hiroshima University to use some advanced analytical equipments there. Similar programme under DST-supported Indo-Brazil collaboration was initiated this year with joint fieldwork in India and Brazil and exchange visits by faculty members and research scholars.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

▶ **Basic Research**

- *Identification of oldest granite-greenstone succession in Indian subcontinent:* High-precision SHRIMP-ages have been generated and oldest well-preserved greenstone crustal blocks (3.51 Ga) in the Indian subcontinent, oldest true granite on Earth have been discovered. This has led to an important contribution to the Paleoproterozoic crustal evolution in global perspective. Nature and emplacement of subaqueous acid/intermediate pyroclastics was established for the first time in the world.
- *Evolution of early Atmosphere:* First record atmospheric oxygenation and discovery of 3.0 Ga oldest oxic paleosol, ‘Keonjhar Paleosol’
- *Record of long-lived subduction accretion processes encompassing India-east Antarctica-western Australia-Laurentia:* Granulites of Eastern Ghats Mobile Belt revealed hitherto unknown records of Paleoproterozoic orogenesis (1.76-1.60 Ga) during the assembly of Proterozoic supercontinent Columbia. This discovery gives Eastern Ghats Mobile Belt a unique status of being a witness to making of all the three Proterozoic supercontinents.

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- *Application of magnetic anisotropy methods in identifying superposed deformation and stratigraphic correlation:* Application of AMS study in Paleo-Mesoarchean metalavas to establish stratigraphic correlation.
- *Ore genesis modeling as a tool for exploration:* The hypogene hydrothermal ore genetic model developed for the BIF-hosted high-grade iron ore deposits of India lead to the understanding of the mode of origin of ore bodies and their vertico-lateral extensions within the host rock. Structural geometry reconstructed from the host succession also lead to the understanding of the disposition of iron and manganese ore bodies in one of the major iron ore basins of India (Noamundi basin).
- *Facies modeling for U-paleoplacers:* Sedimentological facies modeling lead to the understanding of distribution of uraniferous units.

► Applied research

- Metallogenetic study has increased manifold the industry-academy interaction of this department. The hypogene ore genetic model on the BIF-hosted high-grade iron ores is now being tested by major mining industries and Geological Survey of India for establishing deep-seated hidden iron ore bodies. The genetic interpretation of different textural types of ores also explains the lateral variation among ore types, and thus became an important tool for quality control in the ROM.
- The facies modeling approach in a sequence stratigraphic framework for the first time developed and used for the U-exploration in India has been adopted by the AMDER (Atomic Minerals Directorate of Exploration and Research) for the exploratory drilling of the uraniferous QPC deposits in parts of the southern Singhbhum craton. The department is also collaborating with AMDER for similar facies-controlled sandstone-hosted U-mineralization in the younger Proterozoic and Phanerozoic strata.

► Research highlights and major breakthroughs

- Reconstruction of stratigraphy of the Precambrian successions in the cratonic nuclei and mobile belts with special emphasis on the Eastern Indian Shield using high precision techniques of geochronology and detailed mapping. Identification of oldest granite-greenstone succession in Indian subcontinent and oldest true granite in the world.
- Recognition and characterization of different magmatic and thermal events from the cratons and mobile belts of India using petrological, structural, geochemical and phase equilibria studies.
- Reconstruction of geodynamic milieu of Archean greenstone belts and Proterozoic cover sequences from collective sedimentological, structural and geochemical studies.
- Discovery of the Earth's oldest oxic paleosol and oldest atmospheric oxygenation event on Earth.
- Study of metallogeny with special reference to BIF-hosted high-grade iron ores and sediment-hosted Base Metal and Uranium deposits. Application of ore genetic models in guiding exploration.
- Life forms and evolution of Tertiary invertebrates from Kachchh District, Gujarat
- Management of environmental hazards such as arsenic and fluoride contamination in groundwater.
- Sedimentological and structural controls of uranium mineralization.
- Using Microwave remote sensing and hyperspectral analysis for probing petrological and morphotectonic evolution of Moon and Mars.

► Development of new research facilities

- New heavy media separation laboratory has been set up for research scholars and Post-graduate students.

- New microscopy laboratory containing ten (10) Nikon polaroid microscopes for Under-graduate and Post-graduate students.
- New organic geochemistry laboratory for research scholars and Post-graduate students.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- (1) Long tradition of practicing core subjects of Geology including field mapping
- (2) Excellent faculty, vibrant student community and illustrious alumni
- (3) Only college department (erstwhile Presidency College) to receive DST-FIST and UGC-CAS grants
- (4) Huge collection of natural specimens
- (5) Well-equipped laboratories with state-of-the-art basic instruments for teaching and research
- (6) Significant international collaboration and student exchange

Weaknesses :

- (1) Vacant teaching positions; high teaching load.
- (2) Requirement of technical positions for high-end instrumentation facilities for research
- (3) Residential facility to research scholars for long working hours
- (4) Serious space crunch for setting up new laboratory
- (5) Maintenance cost of high end instruments

Opportunities:

- (1) Installing instrumentation research centre in collaboration with DAE-BARC
- (2) Student exchange through MoU
- (3) New programs under inter-disciplinary research school
- (4) Participation of students in academic forums like AAPG, SPE
- (5) International collaborative projects

Challenges:

- (1) Continue research even under severe teaching loads
- (2) Involvement of more number of research students
- (3) Generate more resource through research fund and consultancy
- (4) Participate in global research program like IODP
- (5) Involving Industries to install incubation hubs

52. Future plans of the department.

- The focus of the teaching-learning-researching process of this department has always been on the study of the evolution of the Earth, its natural resources in terms of economic deposits, and origin and evolution of life.

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Important contributions were made towards understanding the basic and advanced knowledge in all these branches. Such contributions are still creating waves in the larger scientific community as one of the recent research outcomes from this department hinted towards very early oxygenation of the Earth's atmosphere, at least 500 million years ahead of the prevailing idea. The present demand of Earth Science as a subject is multipronged, with new branches emerging to address more complicated natural and social requirements. The department is aiming to adapt to these changes in the coming decades. Subjects like Remote Sensing and GIS, Planetary Science, River Dynamics will be taken up within the purview of teaching and research in a more regular manner.

- o A major application of the academic input is the field of mineral and fuel industry. The department will encourage students to undertake industrial projects to get exposed to real life issues. This will be done within the broad umbrella of Industry-Academia relationship, either in the mode of internship or through consultancy projects. This will additionally help to generate more funds for the department vis-à-vis university.
- o Academic research in the twenty first century requires very high-quality data. As the present research approach is towards generating such data from other high-end laboratories either by scientific collaboration or by payment from research schemes, large community of students are, however, left out of this practice as these instruments are not housed in the department. To meet this demand, the department is trying hard to build a state-of-the-art instrumentation centre with the help of funding authorities like MoES, BRNS, BARC which will not only boost the research of our students, but a larger community of scholars from other academic institutes and industry can also benefit from it. Preliminary steps have been taken through negotiations with the above-mentioned agencies.

Annexures

1. List of Research Projects in Last four Years

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed ongoing
1	2009	2013	BRNS	Prof. J. Mukhopadhyay	Sedimentological Controls On Uranium Mineralization In The QPC-Deposits Of The Southern Part Of The Daitari-Tamka Basin.	23,42,000	23,42,000	Completed
2			CSIR	Prof. J. Mukhopadhyay	Stratigraphy and geochemistry of Cherts, BIFs and Iron Ore of the Iron Ore Group, Singhbhum Craton	9,39,000	9,39,000	Completed
3	2012	2015	BRNS	Dr. G. Ghosh	Structural Control of Unconformity-proximal type Uranium Mineralization around Chitrial in the northern part of the Cuddapah basin, Andhra Pradesh	28,45,000	28,45,000	Ongoing
4			DST	Dr. G. Ghosh	Stratigraphic, Structural and Palaeomagnetic analyses of the volcano-sedimentary successions between Noamundi and Nayagarh, western iron ore basin, Singhbhum craton	9,96,000	9,96,000	Completed
5			MoES	Dr. G. Ghosh	Study of the Sub-Himalayan Lower Cenozoic succession with special reference to the reconstruction of tectono-sedimentary history of Subathu basin.	8,00,000	8,00,000	Ongoing
6			DST	Dr. G. Ghosh	Structural and stratigraphic analyses of the successions between the Singhbhum Granite and the Singhbhum Shear Zone in the Chakradharpur-Chaibasa-Jagannathpur sector: implications for tectono-stratigraphic evolution of a Precambrian craton-mobile belt boundary	19,56,000	19,56,000	Completed
7			DST	Dr. A. Ray	Mineralogical and Geochemical attributes of the magmatic rocks of Island belt, Kutch, Gujarat: implication on the early Deccan Volcanism and nature of subcontinental mantle	37,22,000	37,22,000	Completed
8	2015	2018	CSIR	Dr. S. Bose	Characterization of fluids during the evolution of granulites of Eastern Ghats Belt, India: estimations from solid assemblages and fluid inclusion study	14,00,000	5,00,000	Ongoing

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Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed ongoing
9			DST	Dr. A. Ray	Petrological, geochemical and structural study of the peridotite, gabbro anorthosite suite and associated granophyres of Rakha, Mosabani, Bangripoksi, Joshipur areas, Jharkhand-Odhisa: implication for the tectonomagmatic evolution of the magmatic suite in eastern Indian Shield	31,42,000	31,42,000	On going
10	2011	2014	CSIR	Dr. S. Bose	Mobilization of an Archean craton margin during Proterozoic orogenic event(s) and its implication in crustal evolution: a case study from the Eastern Ghats Mobile Belt – Singhbhum Craton boundary zone around Tamka-Rengali, Orissa	18,00,000	18,00,000	Completed
11	2014	2017	BRNS	Dr. N. Dasgupta	Origin and Structural control of Uranium mineralisation in Palaeoproterozoic Bomdilla group, Upper Subansiri and west Siang districts, Arunachal Pradesh	48,53,500	48,53,500	On going
12			Dept. of Space, SAC	Dr. N. Dasgupta	Lunar Geology around Kopff crater, Mare Orientale basin	6,25,560	6,25,560	Completed
13			DST	Dr. Sampa Ghosh (DST-Woman Scientist)	Sedimentary provenance analyses of thenature of source terrain from Precambrian sedimentary rock record	24,05,000	24,05,000	Completed
14			DST	Dr. K. Halder	Taxonomy and Evolutionary Paleobiology of the Tertiary Mollusca of Kutch, Gujarat with special emphasis on Bivalvia	5,21,000	5,21,000	Completed
15			DST	Dr. K. Halder	Study of systematic, palaeoecology and palaeobiogeography of the Eocene mollusks from Kutch, Gujarat	22,00,000	22,00,000	On going
16			MoES	Dr. G.K. Deb	Paleoseismic interpretations from pseudotachylite microstructures: Studies from the Sarwar-Junia fault zone in central Rajasthan and validation from other occurrences	18,00,000	18,00,000	On going
17			DST	Dr. S. Das	Influence of Climate Change on Freshwater Lake-a Study in Lake Loktak, Manipur	26,00,000	26,00,000	Completed
18			UGC	Dr. S. Das	Start up grant	6,00,000	6,00,000	On going

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed ongoing
19	2014	2019	DST	Dr. N. Sorcar	Characterization of Mid-to-Deep Crustal Metamorphism and Melting under varying P-T-X-t conditions and its Applications to the Proterozoic Eastern Ghats Belt, India	35,00,000	7,00,000	On going
20			DST	Prof. H.N. Bhattacharya (retired faculty)	Evolution of the Archean Chitradurga Greenstone Belt, Karnataka, India	38,00,000	38,00,000	Completed
21			NESAC	Dr. A. Chatterjee (Ex-faculty)	Ground water prospect mapping on 1: 50000 scale for Malda District in West Bengal	75,000	75,000	Completed
22			DST	Dr. S. Chakrabarti (Ex-faculty)	Design Consideration and Field Performance Validation of High Arsenic Removal Water Filter Packed with Lab-Bench Developed Materials : A Lab-to-Field Technology Transfer Programme	19,46,600		Completed
23			MoES	Dr. S. Chakrabarti (Ex-faculty)	An Epistemology of Fluoride in the Fluvio-Coastal Sediments : A Potential Source for Groundwater Pollution in Andhra Pradesh Coast, South India	33,77,330		Completed
24			DST	Dr. S. K. Ray (Emeritus Scientist)	Microstructural studies of pseudotachylite in Sarwar-Junia fault zone	18,00,000		Completed
25			BRNS	Dr. S.K. Ray (Emeritus Scientist)	Structural and tectonic control of Albitite related uranium mineralization and associated metallogeny in Northern Rajasthan	14,05,650	14,05,650	Completed
26			CSIR	Dr. D.K. Paul (Ex-Emeritus Scientist)	A Geochemical and mineralogical study of Indian Kimberlites and related rocks and associated ultramafic xenoliths	7,98,000	7,98,000	Completed
27			INSA	Dr. D.K. Paul (Ex-Emeritus Scientist)	Geochronological and geological evolution of crust and its significance on lithospheric processes	4,35,000		Completed
28			DST	Dr. D.K. Paul (Ex-Emeritus Scientist)	Petrology & Geochemistry of mafic dykes in Rewa basin, central India: Implications for dispersal and migration of Deccan magma and nature of sub-continental mantle	20,58,000		Completed
29			MoES	Prof. A.B. Roy (Ex-Emeritus Scientist)	Early Precambrian Crustal history of Singhum and implication for the oldest rock	8,00,000	8,00,000	Completed

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Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed ongoing
30			DST	Pampa Bhattacharya (DST-Woman Scientist)	Management performance of Arsenic saturated solid/sludge material	10,21,800		Completed
31			DST	Dr. Aditi Mondal (DST- Woman Scientist)	Ba- anomaly in hornblende gabbro: an unanswered question in geotectonics, NE Puruliya, West Bengal	22,10,000		On going
32			DST	Dr. Piyali Sengupta (DST-Woman Scientist)	Petrological, geochemical and geochronological studies of the mafic dykes within Singhbhum Granite around Chaibasa, Rairangpur, Jharkhand and Orissa, India	22,35,000		On going
33			MoES IODP bilateral	Dr. S. Das		2,00,000	2,00,000	Completed
34			TCD-Dublin	Prof. J. Mukhopadhyay	Geochronology of the granite-greenstone succession and cover sequence of the western Iron Ore Group, Singhbhum craton, eastern India: implications for the understanding of the early Precambrian crustal evolution	6,00,000	6,00,000	Completed
35	2014		DST-Brazil Govt. Bilateral	Prof. J. Mukhopadhyay	BIF and BIF-hosted High-grade Iron Ore Deposits: A Comparative Study of Ore Genetic and Quality Control Attributes for Understanding the Giants of Brazil and India	35,00,000	35,00,000	On going
36	2014	2016	DST-JSPS Bilateral	Dr. S. Bose	Archean craton-margin orogenic events and SHRIMP age dating: geodynamic significance of India during Ur and Columbia supercontinents	6,98,000	5,75,000	On going

2. List of Seminars and Conferences Organized in last three years

Sl No.	date/ Month	Topic	Source of Funding	Status (Local/ State/national level) (student enrichment programme)
1	14th September, 2012	Geochemical Mapping (GCM) of India by Dr. Balaram Chattopadhyay , Retired Deputy Director General, Geological Survey of India	Geological Institute, Presidency University	Local

Sl No.	date/ Month	Topic	Source of Funding	Status (Local/ State/national level) (student enrichment programme)
2	1st May, 2012	Arc-arc collision in central Japan by Prof. Makoto Arima of Yokohama National University	Department of Geology, Presidency University	Local
3	4th March, 2013	Deformation features of Asian continent due to the collision of India by Prof. Y. Otofujii , Kobe University, Kobe, Japan	Department of Geology, Presidency University	Local
4	26th July 2013	Global Climate Change and Carbon Cycle: Should we be concerned by Dr. Prabir Kr. Patra , Senior Scientist, JAMSTEC, Japan	Department of Geology, Presidency University	Local
5	31st July 2013	Fundamental Principles of Radioactivity applications in Earth Science by Dr. David R. Nelson , University of Western Sydney, Australia	Department of Geology, Presidency University	Local
6	20th September, 2013	Implication of Landforms in Regional and Local Context by Dr. Sujit Kumar Mazumder Sr. Dy. DG, GSI (Retd)	Geological Institute, Presidency University	Local
7	4th November, 2013	Planktonic foraminiferal dynamics in the eastern Arabian Sea as a proxy of the south-west monsoonal activity in Indian sub continent during the last millennium by Prof. Ashish Sarkar , Pandit Deen Dayal Petroleum University, Gandhinagar, Gujarat	Department of Geology, Presidency University	Local
8	19th September, 2014	Meteorites: The poor Man's Space Probe by Dr. Basab Chattopadhyay , Director, Central Petrological Laboratory, Geological Survey of India	Geological Institute, Presidency University	Local
9	7-8th November 2014	National Seminar on “ The Making of the Indian Continent ”	Department of Geology, Presidency University	National
10	24th November, 2015	Research opportunities in Japan by Prof. Hiroshi Hidaka , Earth and Planetary Systems Science, Hiroshima University, Japan	Department of Geology, Presidency University	Local
11	22nd December, 2014	The hypogene Fe mineralization in the Quadrilatero Ferrifero; mineralogical, textural and microchemical changes by Prof. Carlos Alberto Rosiere , Federal University of Minas Gerais, Belo Horizonte, Brazil	Geological Institute, Presidency University	Local
12	7th September, 2015	Darwin Today by Prof. Subhendu Bardhan , Jadavpur University, Kolkata	Geological Institute, Presidency University	Local
13	22nd December, 2015	Mission to Mars by Dr. Debiprasad Duari , Director, Academics and Research, Birla Planetarium	Geological Institute, Presidency University	Local

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3. Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
1	A.Ray	Geology of Kachch	Jan, 2012	DST & ONGC	National	Invited speaker
2	J. Mukhopadhyay	Recent developments and future challenges of Geochemistry and Geophysics: Indian Scenario	22-24 Feb, 2012	Benaras Hindu University (BHU)	National	Invited Speaker
3	H. N. Bhattacharya	Lecture series for postgraduate students of Geology Department of Kumaun University	March, 2012	Geology Department of Kumaun University	National	Visiting Professor
4	J. Mukhopadhyay	Recent Advances in Geology of Dongargarh-Kotri Belt and Mineral Potential	21-22 June, 2012	Gondwana Geological Society & AMD, Nagpur	National	Invited Speaker
5	J. Mukhopadhyay	Sedimentological controls of QPC hosted uranium mineralisation in the Mahagiri quartzite, southern part of Daitari-Tomka basin, Jaipur, Orissa	Sept, 2012	TPDM OF AMD-BRNS PROJECTS	National	Invited Speaker
6	G. Ghosh	Structural control of unconformity-proximal type uranium mineralization in the north western part of the Srisailam sub-basin, Andhra Pradesh	Sept, 2012	TPDM OF AMD-BRNS PROJECTS	National	Invited Speaker
7	G. Ghosh & N. Dasgupta	Rock Deformation and Structures (RDS-II)	1st to 3rd Oct, 2012	SGTSGI in University of Lucknow	National	Paper Presentation
8	H. N. Bhattacharya	UGC Sponsored Seminar	Dec, 2012	Hooghly Mohsin College	National	Invited Speaker
9	S. Bose	International Seminar on Recent Advances in Energy, EEMR-13, at IMMT, Bhubaneswar	12-13 Aug, 2013	IMMT, Bhubaneswar	International	Paper Presentation
10	J. Mukhopadhyay & G. Ghosh	Goldschmidt Conference, Florence, Italy	24-30 Aug, 2013	Geochemical Society & European Association of Geochemistry	International	Paper Presentation
11	S. K. Das	65th Meeting of International Committee for Coal and Organic Petrology (ICCP), Sosnowiec, Poland	23 Aug-4th Sept, 2013	Faculty of Earth Sciences in Sosnowiec	International	Paper Presentation

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker
12	S. K. Das	26th International Meeting on Organic Geochemistry (IMOG) Tenerife, Spain.	16-20 Sept, 2013	European Association of Organic Geochemists (EAOG)	International	Paper Presentation
13	N. Dasgupta & S. Bose	Golden Jubilee Year Celebration of the Indian Geophysical Union (IGU) Meeting at Jadavpur University, Kolkata	28-29 Nov, 2013	Indian Geophysical Union	National	Resource Person
14	S. K. Das	30th Convention of Indian Association of Sedimentologists, Imphal, India.	28-30 Nov, 2013	Department of Earth Sciences, Manipur University	National	Paper Presentation
15	J. Mukhopadhyay & G. Ghosh	American Geophysical Union (AGU) Fall Meeting, San Francisco, USA	9-13 Dec, 2013	American Geophysical Union (AGU)	International	Paper Presentation
16	S. Bose	American Geophysical Union (AGU) Fall Meeting, San Francisco, USA	9-13 Dec, 2013	American Geophysical Union (AGU)	International	Paper Presentation
17	A. Ray & N. Dasgupta	EGU General Assembly 2014, Vienna, Austria	April 27 – May 2, 2014	European Geosciences Union (EGU)	International	Paper Presentation
18	S. Bose	Asia Oceania Geosciences Society 11th Annual Meeting (AOGS2014), Sapporo, Hokkaido, Japan	July 28-Aug 1, 2014	Asia Oceania Geosciences Society (AOGS)	International	Paper Presentation
19	S. Bose	Annual Meeting of the Japan Association of Mineralogical Sciences, Kumamoto University, Japan	Sept 17-19, 2014	Kumamoto University, Japan	International	Paper Presentation
20	S. Bose	7th International SHRIMP Workshop at NIPR, Tokyo	Sept 27-Oct 1, 2014	National Institute of Polar Research (NIPR), Japan	International	Paper Presentation
21	G. Ghosh	Rock Deformation and Structure (RDS)-III, Assam, India	Nov, 2014	Dibrugarh University	National	Paper Presentation
22	S. K. Das	National Conference on Quaternary climate change: new approaches and emerging challenges BSIP, Lucknow, India	15-16 Dec, 2014	Birbal Sahani Institute of Palaeobotany (BSIP)	National	Paper Presentation
23	G. Ghosh & K. Halder	National Conference on 'Paleogene of the Indian Subcontinent', Lucknow	23-24 April, 2015	Birbal Sahani Institute of Palaeobotany (BSIP) & Geological Survey of India (GSI), Lucknow	National	Paper Presentation

4. List of Publications in papers (peer-reviewed only), Books, Monographs, Last Four Years

2012

- 1 Chaudhuri, A. K., Deb, G. K., Patranabis-Deb, S., and Sarkar, S., 2012, Paleogeographic and tectonic evolution of the Pranhita-Godavari Valley, Central India: A stratigraphic perspective. *American Journal of Science*, v. 312, p. 766-815. (Citation Index: 5; Impact factor: 2.917; SNIP: 1.536; SJR: 1.89.).
2. Das, K., Bose, S., Karmakar, S. and Chakraborty, S., 2012, Petrotectonic framework of granulites from northern part of Chilka Lake area, Eastern Ghats Belt, India: Compressional vis-à-vis transpressional tectonics. *Journal of Earth System Science*, v.121, p. 1-17. (Citation Index: 2; Impact factor: 0.70).
3. Das, S.K., Bendle J. and Routh, J., 2012, Evaluating branched tetraether lipid-based paleotemperature proxies in an urban, hyper-eutrophic and polluted lake in South Africa. *Organic Geochemistry* v. 53, p.45-51. (Citation: 7; Impact factor: 3.072; SNIP: 1.367; SJR: 1.274)
4. Dasgupta, N., Mukhopadhyay, D. and Bhattacharyya, T., 2012, Analysis of superposed strain: A case study from Barr Conglomerate in the South Delhi Fold Belt, Rajasthan, India, *Journal of Structural Geology*, v. 34, p. 30-42. (Citation Index: 3; Impact factor: 2.388; SNIP: 1.39; SJR: 1.49).
5. Halder, K., 2012, Cenozoic fossil nautiloids (Cephalopoda) from Kutch, western India. *Palaeoworld*, v. 21, p. 116-130. (Citation Index: 3, Impact Factor: 0, SNIP: 0.974, SJR: 0.465).
6. Mukhopadhyay, J., Ghosh, G., Zimmermann, U., Guha, S and Mukherjee T., 2012, A 3.51 Ga bimodal volcanic-BIF-ultramafic succession from Singhbhum Craton: implications for Palaeoarchean geodynamic processes from the oldest greenstone succession of the Indian subcontinent. *Geological Journal*, v. 47, p. 284-311 (Citation Index: 13; Impact factor: 1.083; SNIP: 0.724; SJR: 0.811).
7. Sengupta, P. and Ray, A., 2012, Newer Dolerite dykes, Jharkhand, India: a case study of magma generation, differentiation and metasomatism in a subduction zone setting. *Geochemical Journal*, v. 46, p. 477-491, (Citation Index: 1; Impact Factor: 1.505; SNIP: 1.136; SJR: 0.623).

2013

1. Chakrabarti, K, Ecka, N. R. R.I, Mishra, B., Kumar M.K., Katti, V. J., Umamaheswar, K., Parihar, P. S., Mukhopadhyay, J., and Ghosh, G., 2013, Gold, silver and platinum group of elements mineralization in Precambrian uraniferous quartz-pebble conglomerates of Mankarhachua area, Angul District, Odisha. *Current Science*, v. 105, p. 978-983 (Citation Index: 1; Impact factor: 0.926; SNIP: 0.771; SJR: 0.293).
2. Das, K., Tomioka, N., Bose, S. and Ando, J.I., 2013, On oriented ilmenite needles in garnet porphyroblasts from deep crustal granulites: implications for fluid evolution and cooling history. *Lithos*, v.156-159, p. 230-240. (Citation Index: 3; Impact factor: 4.416; SNIP: 1.621; SJR: 2.145).
3. Dasgupta, S., Bose, S. and Das, K., 2013, Tectonic evolution of the Eastern Ghats Belt. *Precambrian Research*, v. 227, p. 247-258. (Citation Index: 38; Impact factor: 5.823; SNIP: 1.795; SJR: 2.613).
4. Deb, G. K., 2013, Discussion of Saha et al. (2012, *Precambrian Research*) Tectono-magmatic evolution of the Mesoproterozoic Singhora basin, central India: Evidence for compressional tectonics from structural data, AMS study and geochemistry of basic rocks. *Precambrian Research*, v. 230, p. 248-257. (Citation Index: 2; Impact factor: 6.023; SNIP: 1.795; SJR: 2.613).
5. Mukhopadhyay, J, Crowley, Q.C., Ghosh, G., Ghosh, S., Chakrabarti, K, Mishra, B., and Bose, S., 2013, A Mesoarchean Paleosol from Eastern India—the Second Oldest Paleosol on Earth. *Mineralogical Magazine*, v.77, p. 1802. (Impact factor: 3.5; SNIP: 0.773; SJR: 0.564).
6. Sarbajna, C., Bose, S., Rajagopalan, V., Das, K., Som, A., Paul, A.K., Shivkumar, K., Umamaheswar, K. and Chaki, A., 2013, U-Cr-rich high Mg-Al granulites from Karimnagar Granulite Belt, India: implications for

Neoproterozoic events in the Southern India. *Mineralogy and Petrology*, v. 107, p. 553-571. (Citation Index: 4; Impact factor: 1.414; SNIP: 0.738; SJR: 0.766).

2014

1. Crowley, Q.G., Mukhopadhyay, J., Ghosh, S., Ghosh, G., Chakrabarti, K., Misra, B., Heron, K. and Bose, S., 2014, Oxygenation of the Archean atmosphere: New paleosol constraints from eastern India: *REPLY. Geology*, v. 43, p. e367-e368. (Citation Index: 0; Impact factor: 4.539; SNIP: 1.79; SJR: 2.744).
2. Halder, K., and Sinha, P., 2014. Some Eocene cerithioids (Gastropoda, Mollusca) from Kutch, western India, and their bearing on paleobiogeography of the Indian subcontinent. *Paleontology Journal*, v. 2014; p. 11.
3. Mukhopadhyay, J., Crowley, Q., Ghosh, S., Ghosh, G., Chakrabarti, K., Misra, B., Heron, K. and Bose, S., 2014, Oxygenation of the Archean atmosphere: new paleosol constraints from Eastern India, *Geology*, v. 42, p. 923-926 (Citation Index: 9; Impact factor: 4.539; SNIP: 1.79; SJR: 2.744).
4. Ruj, T., and Dasgupta, N., 2014, Tectonic imprints within granite exposed near Srinagar, Rajasthan, India. *Journal of Earth System Science*, v. 123, p. 1361-1374 (Citation Index: 1; Impact factor: 1.040).
5. Sengupta, P., Ray, A., and Pramanik, S., 2014, Mineralogical and Chemical Characteristics of Newer Dolerite Dyke around Keonjhar, Orissa: implication for hydrothermal activity in subduction zone setting. *Journal of Earth System Science*, v. 123, p. 887–904 (Citation Index: 0; Impact factor: 1.04; SNIP: 0.939; SJR: 0.467).
6. Sorcar, N., Hoppe, U., Dasgupta, S., and Chakraborty, S., 2014, High temperature cooling history of migmatites from the High Himalayan Crystallines in Sikkim, India –Rapid cooling unrelated to exhumation? *Contributions to Mineralogy and Petrology*, v.167, p. 957. (Citation Index: 17; Impact Factor: 3.484).

2015

1. Amarasinghe, U., Chaudhuri, A., Collins, A. S., Deb, G., Patranabis-Deb, S., 2015, Evolving provenance in the Proterozoic Pranhita-Godavari Basin, India. *Geoscience Frontiers*, v. 6, p. 453-463. (Citation Index: 6; Impact factor: 3.105, SNIP: 1.216; SJR: 1.271).
2. Bose, S., Guha, S., Ghosh, G., Das, K. and Mukhopadhyay, J., 2015, Tectonic juxtaposition of crust and continental growth during orogenesis: Example from the Rengali Province, eastern India. *Geoscience Frontiers*, v. 6, p. 535-555 (Citation Index: 0; Impact factor: 3.105; SNIP: 1.216; SJR: 1.271).
3. Chakraborti, T.M., Ray, A., and Deb, G.K., 2015, Crystal Size Distribution analysis of plagioclase from gabbro-anorthosite suite of Kuliana, Orissa, eastern India: implications for textural coarsening in static magma chamber. *Geological Journal*, DOI: 10.1002/gj.2752. (Citation Index: 0; Impact factor: 1.083; SNIP: 0.724; SJR: 0.811).
4. Chaudhuri, A. K., Deb, G. K., Patranabis-Deb, S., 2015, Conflicts in stratigraphic classification of the Puranas of the Pranhita–Godavari Valley: review, recommendations and status of the ‘Penganga’ sequence. Mazumder, R. & Eriksson, P. G. (eds): *Precambrian Basins of India: Stratigraphic and Tectonic Context*. Geological Society, London, *Memoirs*, v. 43, p. 165–183. (Citation Index: 3; Impact factor: 2.58; SNIP: 1.536; SJR: 1.89).
5. Das, S.K., Routh J. and Roychoudhury, A.N., 2015, Biogeochemistry of shallow lake sediments: a case study from Verlorenvlei, South Africa. *Current Science*, v.109, p. 1486-1491. (Citation Index: 0; Impact Factor: 0.926; SNIP: 0.771; SJR: 0.293).
6. De, K., Kundu, A., Chauhan, P. and Dasgupta, N., 2015, An example of consistent palaeostress regime resulting in morphometric irregularity in the north-western part of Noachis Terra, Mars. *Current Science*, v. 108, p. 2156-2159 (Citation Index: 3, Impact factor: 0.926; SNIP: 0.771; SJR: 0.293).
7. De Kock, M., Beukes, N.J., Mukhopadhyay, J., 2015, Palaeomagnetism of Mesoproterozoic limestone and shale successions of some Purana basins in southern India. *Geological Magazine*, Cambridge University Press, p. 1-23. doi:10.1017/S0016756814000727 (Citation Index: 0; Impact factor: 2.482; SNIP: 1.121; SJR: 1.198).

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8. Ghosh, G. Ghosh B., Mukhopadhyay, J., 2015, Palaeoarchaeoan-Mesoproterozoic sedimentation and tectonics along the west-northwest margin of the Singhbhum Granite body, eastern India: a synthesis. published in Precambrian Basins of India: Stratigraphic and Tectonic Context (Eds. R Majumder and P G Eriksson), Geological Society of London, Special Memoir No. 43, p. 121-138 (Citation Index: 3, Impact Factor: 0).
9. Halder, K., and Bano, S., 2015, Cenozoic Corbulidae (Bivalvia, Mollusca) from the Indian subcontinent - palaeobiogeography and revision of three species from Kutch, India, Arabian Journal of Geosciences, v. 8, p. 2019-2034. DOI: 10.1007/s12517-014-1362-6. (Citation Index: 1, Impact Factor: 1.224, SNIP: 0.606, SJR: 0.29).
10. Mandal, A., and Ray, A., 2015, Petrological and geochemical study of Ultramafic-mafic rocks from North Puruliya Shear Zone, eastern India. Journal of Earth System Science (in Press). (Impact factor: 1.04; SNIP: 0.939; SJR: 0.467).
11. Mukhopadhyay, J., Mishra, B., Chakrabarti, K, De, S., and Ghosh, G., 2015, Uraniferous palaeoplacers of the Mesoarchaeoan Mahagiri Quartzite, Singhbhum Craton, India: Depositional controls, nature and source of >3.0 Ga detrital uraninites. Ore Geology Reviews, <http://dx.doi.org/10.1016/j.oregeorev.2015.05.20> (Citation Index: 1; Impact factor: 3.558; SNIP: 2.089; SJR: 1.626)
12. Sen, G., Hames, W.E., Paul, D.K., Biswas, S.K., Ray, A., and Sen, I.S., 2015, Pre-Deccan and Deccan Magmatism in Kutch, India: Implications of new ⁴⁰Ar/³⁹Ar ages of intrusions. Journal of Geological Society of India. (in press). (Impact factor: 0.596; SNIP: 0.716; SJR: 0.351)

5. List of Conference Publications Last Four Years

2015

1. Ghosh, G., **Bose, S.**, Mukhopadhyay, J., 2015, Deformation imprints and remobilization along Singhbhum cratonic margin: implications on growth and craton margin processes, abstract volume of the Workshop on Geodynamics of the Singhbhum Craton: present status and future directions. NGRI, Hyderabad, 14-15, December 2015. **(National)**.
2. Chatterjee, A., Hidaka, H., Das, K., **Bose, S.**, 2015, Geochronology (zircon U-Pb SHRIMP IIe and monazite CHIME-EPMA) of western boundary of Eastern Ghats Granulite Belt, India. Abstract volume of the Annual Meeting of the Japan Geoscience Union (JPGU), May 2015. **(International)**.
3. Bose, S., Seth, P., Dasgupta, N., 2015, Meso-Neoproterozoic mid-crustal metamorphism from the Ajmer-Shrinagar section, Rajasthan, India and its implication to assembly of Greater Indian landmasses during the Grenvillian orogenesis in XII International Symposium on Antarctic Earth Sciences at Goa, India, July 13-17, 2015, abs. v. S05-197, p. 95. **(International)**.
4. Bose, S. Das, K, Arima, M., Torimoto, J., 2015, The ca. 780 Ma reworking of the UHT metamorphosed lower crust of the Eastern Ghats Belt and its implication for the breakup of Rodinia in XII International Symposium on Antarctic Earth Sciences at Goa, India, 13-17 July, 2015, abs. v. S05-196, p. 94 **(International)**.
5. Dasgupta, S., Bose, S., Bhowmik, S.K., 2015, India- East Antarctica connection re-visited in XII International Symposium on Antarctic Earth Sciences at Goa, India, July 13-17, 2015, abs. v. S05-66, p. 91 **(International)**.
6. Hazra, M., Gangopadhyay, K., Das, S.K., 2015, Geochemical studies of archaeological potteries (fine ware) from coastal India in International Conference on Contemporary Advances of Science and Technology, Banaras Hindu University, Varanasi, India, 7-9 August, 2015. **(national)**
7. Gupta, H., Agrahari, S., Das, S.K. 2015, Temporal Variation in the Sediment Discharge of the Large Indian Peninsular Rivers and the Influence of Human Activities. International Conference on Contemporary Advances of Science and Technology, Banaras Hindu University, Varanasi, India, 7-9 August, 2015. **(national)**

8. Ghosh, S., Das, S.K., Tripathi, S., Basumatary, S.K., Ghosh, R., Thakur, B., Singh, M.C., Kushwaha, R.A.S., Agrahari, S., 2015, Ecological interpretation of stable carbon and nitrogen isotopes ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of bulk organic matter in sediments of Lake Loktak, Manipur, India. International Conference on Contemporary Advances of Science and Technology, Banaras Hindu University, Varanasi, India, 7-9 August, 2015. (national)
9. Varma, A.K., Misra, S., Chakraborty, S., Das, S.K., Hazra, B., Patil, B.J., Singh, B.D., Biswas, S., Samad, S.K., 2015, Effect of igneous intrusion on hydrocarbon generation behavior of coal seam in Jambad area, Raniganj basin, India in 67th Annual Meeting of the International Committee for Coal and Organic Petrology, Potsdam, Germany, 5-11 September, 2015. (International)
10. Das, S.K., Adhikari, R., France-Lanord, C., Spiess, V., Schwenk, T., Klaus, A., IODP Expedition 354 Science party, 2015, Characterisation of organic matter to understand methanogenesis in Bengal Fan Sediments, in. 52nd Annual Convention of Indian Geophysical Union, Goa, India, 3-5 November, 2015. (national)
11. Mitra, S., Halder, K., 2015, Study of bioerosion and encrustation from the Middle Eocene of Kutch, Gujarat and its bearing on basin evolution, in National Conference on Paleogene of the Indian subcontinent, Lucknow, 23-24 April, 2015. (National)
12. Sinha, P., Halder, K., 2015, The Oligocene corals had circumtropical distribution, in National Conference on Paleogene of the Indian subcontinent, Lucknow, 23-24 April, 2015. (National)
13. Ghosh, I., Halder, K., 2015, Biostratigraphical, Palaeoecological and Palaeobiogeographical significance of *Venericardia Lamarck 1801 sensu lato* (Bivalvia, Carditidae) from the Paleogene of western India, in National Conference on Paleogene of the Indian subcontinent, Lucknow, 23-24 April, 2015. (National)
14. Mukhopadhyay, J., Ghosh, G., 2015, An overview on the Archean Stratigraphic development in the Singhbhum craton: National Workshop on Singhbhum Geology, NGRI, Hyderabad, 14-15 Dec. (National) (Invited speaker)

2014

1. Das, K., Bose, S., Hidaka, H., 2014, ~800 Ma circum Indian cratonic-margin orogenic event and associated crustal growth in the 7th International SHRIMP Workshop at NIPR, Tokyo during 27 September-October 1, 2014 (International).
2. Das, K., Kayama, M., Bose, S., Hidaka, H., 2014, Zircon: integrating U-Pb SHRIMP data, SEM-CL and micro-laser Raman spectral data to differentiate magmatic, metamorphic growths and metasomatic zones in Annual Meeting of the Japan Association of Mineralogical Sciences (International).
3. Bose, S., Ghosh, G., Dasgupta, A., Das, K., 2014, Growth and Evolution of Craton Margin Mobile Belt: Evidence from Rengali Province, Eastern India in Asia Oceania Geosciences Society 11th Annual Meeting, Sapporo, Hokkaido, Japan, 28 July-01 August, 2014, abs. v. SE41-A057. (International)
4. Das, S.K., Ghosh, S., Nautiyal, C.M., Tripathi, S., Basumatary, S.K., Ghosh, R., Thakur, B., Singh M.C., Kushwaha, R.S., 2014, Palaeoclimate Reconstruction Using Lake Loktak Sediment: A Progress Report, in National Conference on Quaternary climate change: new approaches and emerging challenges BSIP, Lucknow, India, 15-16 December, 2014. (national)
5. Das, S.K., 2014, Application of Organic Geochemistry in Archaeology, in Symposium on Science-Technology and Cultural Heritage Interface (SANDHI) at IIT Kharagpur, 14-21 October, 2014. (national) (Invited Speaker).
6. Ray, A., Paul, D.K., Sen, G., Biswas, S.K., 2014, Carbonatite-silicate immiscible melt inclusion in lamprophyre from Kutch, western India: implication for plume-lithosphere interaction and initiation of Deccan Trap magmatism- presented in EGU General Assembly 2014, Vienna, Austria, April 27 – May 2, 2014, Extended Abstract accepted. (International)

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7. Patel, V., Khambhla, P., Ray, A., Thakkar, M.G., 2014, Petrogenesis of Varar intrusive of central Kachchh mainland, Western India. Abstract accepted for publication in National Seminar held at the Dept. of Geology, Udaipur University 2014. (national)
8. Chakraborti, T.M., Ray, A., Deb, K.D., 2014, Petrology of mafic-utramafic suites of rocks around Bangriposi and Bisoi, Orissa, eastern India. Extended Abstract published in the Abstract Volume of the National Seminar 'Making of the Indian Continent held on 7-8 November 2014 at Presidency University, Kolkata. (national)
9. Sengupta, P., and Ray A., 2014, Petrological and Geochemical characters of Newer dolerite dykes in and around Chaibasa and Keonjhar region of Jharkhand, Orissa, eastern India. Extended Abstract published in the Abstract Volume of the National Seminar 'Making of the Indian Continent held on 7-8 November 2014 at Presidency University, Kolkata. (national).
10. Mandal, A., Ray, A., 2014, Clinopyroxenite-alkali granite-apatite magnetite chert association near Cholari, NW Puruliya, West Bengal- a case study of metasomatic transformation of dolomitic carbonatite to clinopyroxenite during shearing. Extended Abstract published in the Abstract Volume of the National Seminar 'Making of the Indian Continent held on 7-8 November 2014 at Presidency University, Kolkata. (national).
11. Patel, V., Khambhla, P., Ray, A., Thakkar, M.G., 2014, Petrogenesis of Varar intrusive of central Kachchh mainland, Western India. Abstract accepted for publication in National Seminar to be held at the Dept. of Geology, Udaipur University. (national).
12. Ray, A., Paul, D.K., Sen, G., Biswas, S.K., 2014, Carbonatite-silicate immiscible melt inclusion in lamprophyre from Kutch, western India: implication for plume-lithosphere interaction and initiation of Deccan Trap magmatism, abstract accepted for publication in European Geoscience Union (EGU) held at Vienna, Austria from 27th April to 2nd May, 2014. (International)

2013

1. **Bose, S.,** Dasgupta, A., Ghosh, G., 2013. Growth of one of the oldest cratonic nuclei: evidences from the southern margin of the Singhbhum craton, India. Paper presented at the International Seminar on Recent Advances in Energy, EEMR-13, at IMMT, Bhubaneswar, India, August 12-13, 2013. **(national)**
2. **Bose, S.,** Das, K., Kimura, K., Hayasaka, Y., Hidaka, H., Dasgupta, A., Ghosh, G. and Mukhopadhyay, J., 2013. Zircon and monazite geochronology of the granulites and associated gneisses from the Rengali Province, India: Growth of the southern margin of the Singhbhum Craton. Paper presented at the American Geophysical Union (AGU) Fall Meeting, San Francisco, US, 9-13 December, 2013. **(International)**
3. Mallick, S., Dasgupta, A., Ghosh, G., **Bose, S.,** Dutta Mal, S., Mukhopadhyay, J., 2013. Structural Architecture from the Rengali Province, Eastern Ghats Belt, India and growth of southern margin of the Singhbhum Craton. Paper presented at the Annual Meeting of the Geological Society of India (ESEMR), ISM, Dhanbad, 5-6 November, 2013. **(national)**
4. Das, K., **Bose, S.,** Torimoto, J., Hayasaka Y., Matsueda, H., 2013. Multiple fluid-rock interactions during the tectonothermal evolution of reworked UHT granulite: ca. 950 Ma to ca. 500 Ma history from Eastern Ghats Belt, India. Paper presented at the Annual Meeting of the Japan Association of Mineralogical Sciences, Tsukuba University, Japan, September 11-13, 2013. **(International)**
5. Das, K., Kimura, K., **Bose, S.,** Hayasaka, Y., Hidaka, H., 2013. Neoproterozoic reworking of Archean deep continental crust in the Coorg Massif, India: SHRIMP zircon and EMPA monazite geochronology and implication on Dharwar craton margin orogenesis during the assembly of Gondwana. Paper presented at the Annual Meeting of the Japan Association of Mineralogical Sciences, Tsukuba University, Japan, 11-13 September, 2013. **(International)**
6. **Das, S.K.,** Kushwaha, R.A.S., 2013, Biomarker: a novel tool in Earth Sciences, in 30th Convention of Indian Association of Sedimentologists, Imphal, India, 28-30 November, 2013. **(national)**

7. **Das, S.K.**, Ekblad, A., Stojanović, K., Mikusinska, A., Gaillard-Lemdahl, M.J., Mitrović D., Cui, Q., 2013, Holocene Stable Isotope Record From Stavsåkra Peat (Sweden), in 26th International Meeting on Organic Geochemistry (IMOG) Tenerife, Spain, 15-20 September, 2013. **(International)**
8. Mitrović, D., Đoković, N., Stojanović, K., **Das, S.K.**, 2013, Preliminary organic geochemical study of lignites from Smederevsko Pomoravlje field, Kostolac Basin, Serbia, in 65th Meeting of International Committee for Coal and Organic Petrology (ICCP), Sosnowiec, Poland, 25-31 August, 2013. **(International)**
9. Mallick, S., Dasgupta, A., **Ghosh, G.**, Bose, S., Dutta Mal, S., Mukhopadhyay, J., 2013. Structural Architecture from the Rengali Province, Eastern Ghats Belt, India and growth of southern margin of the Singhbhum Craton. Abstract presented in the Annual Meeting of the Geological Society of India (ESEMR), ISM, Dhanbad, November 5-6, 2013. **(national)**
10. Bose, S., Dasgupta, A., **Ghosh, G.**, 2013, Growth of one of the oldest cratonic nuclei: evidences from the southern margin of the Singhbhum craton, India, in abstract of the paper presented in the International Seminar on Recent Advances in Energy, EEMR-13, at IMMT, Bhubaneswar, India, August 12-13, 2013. **(national)**
11. Das, P., Ghosh, B., **Ghosh, G.**, Mukhopadhyay, J., 2013, Interpretation of AMS fabric in the Jhinkpani Limestone, Kolhan Group, Singhbhum Craton. In Abstract volume of the Golden Jubilee Year Celebration of the Indian Geophysical Union (IGU) Meeting at Jadavpur University, Kolkata, 35. **(national)**
12. Mukherjee, S., Das, P., **Ghosh, G.**, Mukhopadhyay, J., Basu, H., 2013, Role of basement fractures behind Unconformity-type uranium mineralization: a case study from the Chitrial outlier, Srisailam sub-basin, Andhra Pradesh, in abstract volume of the Golden Jubilee Year Celebration of the Indian Geophysical Union (IGU) Meeting at Jadavpur University, Kolkata, 33-34. **(national)**
13. **Mukhopadhyay J.**, Crowley, Q.C., Ghosh, G., Ghosh, S., Chakrabarti, K., Mishra, B., Bose, S., 2013, A Mesoarchean Paleosol from Eastern India—the Second Oldest Paleosol on Earth, in Goldschmidt Conference, Florence, Italy, 24-30 August, 2013. **(International)**
14. **Mukhopadhyay, J.**, Ghosh, G., 2013, REE signatures in 3.51 Ga BIF and Bedded Chert from Iron Ore Group, Singhbhum Craton, India: Implications for Paleoproterozoic Ocean Oxygenation, in American Geophysical Union (AGU) Fall Meeting, San Francisco, USA, 9-13 December, 2013. **(International)**
15. Bose, S., Das, K., Kimura, K., Hayasaka, Y., Hidaka, H., Dasgupta, A., Ghosh, G., **Mukhopadhyay, J.**, 2013, Zircon and monazite geochronology of the granulites and associated gneisses from the Rengali Province, India: Growth of the southern margin of the Singhbhum Craton, in American Geophysical Union (AGU) Fall Meeting, San Francisco, USA, 9-13 December, 2013. **(International)**
16. Das, P., Ghosh, B., Ghosh, G., **Mukhopadhyay, J.**, 2013, Interpretation of AMS fabric in the Jhinkpani Limestone, Kolhan Group, Singhbhum Craton, in Abstract volume of the Golden Jubilee Year Celebration of the Indian Geophysical Union (IGU) Meeting at Jadavpur University, Kolkata, 35. **(national)**
17. Mukherjee, S., Das, P., Ghosh, G., **Mukhopadhyay, J.**, Basu, H., 2013, Role of basement fractures behind Unconformity-type uranium mineralization: a case study from the Chitrial outlier, Srisailam sub-basin, Andhra Pradesh, in Abstract volume of the Golden Jubilee Year Celebration of the Indian Geophysical Union (IGU) Meeting at Jadavpur University, Kolkata, 33-34. **(national)**
18. Ray, A., Mukhopadhyay, J., Ghosh, G., 2013, Petrographic study of high grade ignimbrite of Dongargarh Supergroup: implication for mechanism of phenocryst breaking. Extended Abstract published in the Abstract volume of the National Seminar “Style of Magmatism----“ held in the Pune University, on February, 2013. **(national)**
19. Chakraborti, T.M., **Ray, A.**, Sengupta, P., Banerjee, S., 2013, Petrological study of mafic dykes within Singhbhum Granite of Rairangpur-Kockcho-Bahalda area, Jharkhand & Orissa, eastern India: implication for hybridization in granite in extended Abstract published and presented in **IGU** (Indian Geophysical Union) held at the Department of Geological Sciences, Jadavpur University on 28-29 November, 2013. **(national)**

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20. Mahato, A., **Ray, A.**, Mondal, A., Chatterjee, J., 2013, Petrology and geochemistry of gabbro, basalt and dolerite dykes in and around Lalpur-Maguria and Ledadih area, Puruliya, West Bengal, in extended abstract published and presented in **IGU** (Indian Geophysical Union) held at the Department of Geological Sciences, Jadavpur University on 28th & 29 th November, 2013. **(national)**.

2012

1. **Ray, A.**, Paul, D.K., Biswas, S.K., Damepai SM Pdah., 2012, Lamprophyre dykes of Pachcham Island, Kutch, Gujarat: implication for Plume- lithosphere interaction. Extended Abstract published in the DST Sponsored National Seminar and Field Workshop on Geology of Kutch Basin, 26-29 January, 2012, p. 83-85. **(national)**.
2. Paul, D.K., **Ray, Arijit.**, Biswas, S.K., Damepai, S.M. Pdah., 2012, Petrological and geochemical heterogeneity of the magmatic rocks of Kutch, Gujarat in relation to tectonic setting and source characteristics. Extended Abstract published in the DST Sponsored National Seminar and Field Workshop on Geology of Kutch Basin held in 26-29 January, 2012, p. 80-82. **(national)**.
3. Patil, S.K., Paul, D.K., Das, B., **Ray, A.**, Biswas, S.K., 2012, Paleomagnetic and rock magnetic studies on the magmatic rocks of Kutch Basin: implications on their ages. Extended Abstract published in the DST Sponsored National Seminar and Field Workshop on Geology of Kutch Basin held in 26-29 January, 2012, p.91-92. **(national)**.

6. Synopsis of Publications

Publications		2012	2013	2014	2015	Total
Paper (peer-reviewed)	national				1	1
	International	7	6	6	11	30
Books & Monographs	national					0
	International				2	2

7. Summer Projects conducted for students from other institutes and for own students and summer projects arranged for own students in other institutes (last four years)

- Own students received training at other institutes/industries

Name of the student	Industry/Institute	Name of the student	Industry/Institute
2012			
Arpan Banerjee	ONGC Kolkata	Arnab Mukherjee	ONGC Kolkata
Sanchari Mukherjee	ONGC Kolkata	Bithika Das	ONGC Kolkata
Pallab Roy	ONGC Kolkata	Achinta Mahato	ONGC Kolkata
Dibyendu Ghosh	ONGC Kolkata	Wriju Sarkar	ONGC Kolkata
Sumit Dey	ONGC Kolkata	Subhadeep Kumar	ONGC Kolkata
Shreya Sarkar	ONGC Kolkata	Binayak Banerjee	ONGC Kolkata
Purnamrita Maiti	ONGC Kolkata	Jayanta Chatterjee	ONGC Kolkata
Abir Banerjee	ONGC Kolkata		

Name of the student	Industry/Institute	Name of the student	Industry/Institute
2013			
Sounav Karmi	ONGC Kolkata	Sritama Bose	ONGC Kolkata
Rajarshi Majumder	ONGC Kolkata	Subhodip Ghosh	ONGC Kolkata
Arnob Kumar Mondal	ONGC Kolkata	Rana Banerjee	ONGC Kolkata
Amitava Chatterjee	ONGC Kolkata	Kankana Ganguly	ONGC Kolkata
Riwitika Das	ONGC Kolkata	Kalyan brata Hatui	ONGC Kolkata
Shreeparna Sarkar	ONGC Kolkata	Ipshita Mitra	ONGC Kolkata
Swagata Mukherjee	ONGC Kolkata	Munmun Majhi	ONGC Kolkata
Meenakshi Banerjee	ONGC Kolkata	Dipankar Manna	ONGC Kolkata
Kuhu Chakrabarty	ONGC Kolkata	Someshwar Patra	ONGC Kolkata
Ranita Banerjee	ONGC Kolkata	Ananya Basu	ONGC Kolkata
2014			
Shantanu Ghosh	ONGC Kolkata	Pritha Seth	ONGC Kolkata
Pousali Pathak	ONGC Kolkata	Sayandeep Chakrabarty	ONGC Kolkata
Soumendu Sekhar Roy	ONGC Kolkata	Manab Mukherjee	ONGC Kolkata
Dipanjan Chakrabarty	ONGC Kolkata	Sujoy Dutta	ONGC Kolkata
Hindol Ghatak	ONGC Kolkata	Rimali Mitra	ONGC Kolkata
Poulami Roy	ONGC Kolkata	Utsha Dasgupta	ONGC Kolkata
Moumita Ghosh	ONGC Kolkata	Subarna Baidya	ONGC Kolkata
Aranya Sen	ONGC Kolkata	Soumyajeet Basu	ONGC Kolkata
Asish Panda	ONGC Kolkata	Avisek Saraff	ONGC Kolkata
Tathagata Roy Choudhury	ONGC Kolkata		
2015			
Sandip Agrahari	ONGC Kolkata	Manoshi Hazra	TATA Steel
Mohuli Das	ONGC Kolkata	Abhirup Saha	ONGC Kolkata
Aniket Mitra	ONGC Kolkata	Chandreyee de	Schlumberger Ltd.
Ayan Chakraborty	ONGC Kolkata	Abhishek Kundu	AMD
Mahasweta Mukherjee	PRL Ahmedabad	Dyuti Prakash Sarkar	IIGM, Allahabad
Swagata Chaudhuri	WIHG, Dehradun	Subham Sarkar	WIHG, Dehradun
Bidisha Dey	WB-DST	Arnab Sengupta	AMD
Budhaditya Biswas	Schlumberger Ltd.	Sayal Pal	AMD
Suranjan Ghosh	IIGM, Allahabad	Madhurima Ghosh	TATA Steel
Amitava Saha	ONGC Kolkata	Arunima Hazra	ONGC Kolkata
Arijit Mukherjee	AMD		

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► External students trained in the Department

Name of the student	Institute	Supervisor
Arindam Chakrabarti	IIT Bombay	Dr. Sankar Bose
Narayan Bose	IIT Bombay	Prof. Joydip Mukhopadhyay
Suman Naskar		
Gourav Basu	IIT Bombay	Dr. Arijit Ray
Ayush Srivastava	Delhi University	Dr. Nilanjan Dasgupta
Nibedita Rakshit	IIT Roorkee	Dr. Nilanjan Dasgupta
Kuntal Chaudhuri	IISER Kolkata	Dr. Sankar Bose
Prabhati Sen	Jadavpur University	Dr. Sankar Bose
Somdipto Chatterjee	Jadavpur University	Dr. Sankar Bose
Srijita Chatterjee	Jadavpur University	Dr. Sankar Bose
Sayandeep Roy	Jadavpur University	Dr. Sankar Bose
Vaneet Patel		
Pravin Khambatta	Kutch University	Dr Arijit Ray
Ritabrata Dasgupta	Jadavpur University	Dr. Nilanjan Dasgupta
Swagatam Khan	IIT Roorkee	
Ishita Samajpati	IIT Roorkee	
Triparna Ghosh	BHU, Varanasi	Dr Arijit Ray
Abaan Ahmed Momin	IIT Bombay	Dr. Sankar Bose

8. A brief history of the Department

The Hindoo College was founded in 1817 with the express intention of providing modern education to the Indian students. The teaching of science was, however, ignored at the initial phase. In 1823, Raja Rammohan Roy addressed a letter to Lord Amherst for imparting instruction in “mathematics, natural philosophy, chemistry, anatomy and other useful sciences”. In response to that request, Mr. H.F. Blanford informally began teaching the basic elements of Physics, Chemistry, Geology, Meteorology and Physical geography in Presidency College as ‘Professor of Natural Science’. In 1851, the establishment of Geological Survey of India in Calcutta signalled the dawn of geological exploration in the subcontinent. The need for trained Indians was then strongly felt by the colonial rulers. On 23rd September 1891, the Government of Bengal published a notification regarding opening of graduate classes in Geology and Mineralogy in Presidency College. On 17th July 1892, the Department of Geology, the first of its kind in India, was formally inaugurated with Sir Thomas Holland of the Geological Survey of India as the first Professor of Geology. The teaching covered both B.Sc. and M.Sc. levels. The department remained a small one with only four full-time teachers until the middle of the twentieth century when its expansion began. Even in those early days, the department established its tradition of dedicated teaching and a reputation as a pioneering research centre under the stewardship of Late Professor Hem Chandra Dasgupta, the first Indian Professor of Geology. The geological museum set up by Professor Dasgupta has been renovated and named Hem Chandra Museum of Geology in his honour. Standing on that strong foundation, the department has been moving forward along the path of excellence. The alumni of this department not only established their

superiority in the academic field of earth sciences but they are also playing a leading role in the development of the natural resource industry of the country. Many of our alumni adorn the chairs of leading institutions in India and abroad. As recognition of its academic excellence, the department came under the **UGC-COSIST** Program in 1985, followed by the **UGC** Special Assistance Program in 1986. In the year 2004, the department came under the purview of the **FIST** Program of the Department of Science and Technology, Government of India. With successful completion of the **FIST** Program, the department applied and obtained the next level of the **FIST** Program which was completed in 2014. The department was declared a Centre for Advanced Study (**CAS**) in Precambrian Geology and Metallogeny by the University Grants Commission in 2006 which subsequently reached its next level (**CAS II**) in 2012 with support for another five years.

Evaluative Report of the Department : Mathematics

1. **Name of the Department** : Mathematics
2. **Year of establishment** : 1817 (Founded under the Hindoo College) 1855 (as part of the Presidency College), 2010 (as part of the Presidency University)
3. **Is the Department part of a School/Faculty of the university?** :
 - Under the Faculty of Natural and Mathematical Sciences.
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)** : UG and PG.
5. **Interdisciplinary programmes and departments involved** :
 - The Mathematics department is taking part in the interdisciplinary programme at the UG level, namely the GenEd programme. Under this programme, the faculty members of this department teach courses in Differential and Integral Calculus, Algebra, Analysis, Linear Algebra to the students of other science departments and also Logic and Basic Number Theory {Puzzles and Paradoxes in Mathematics} to both science and humanities departments. All these courses offered by the Department of Mathematics are highly sought after. The Departments of Physics, Chemistry, Bio science, Statistics, Economics, Geology, Geography amongst the science faculties and the Departments of English and Philosophy amongst the arts faculties are involved in this programme.
 - The Department of Mathematics has started organizing regular Student Seminar on every alternate Thursdays from February 2016, which is an event open to all the students of the university. Students of the Departments of Statistics and Physics have taken part in the Student Seminar so far. We also hope that students from the other Departments like Economics will take part in this activity in future. Moreover we have planned to invite potentially strong students from Statistics, Economics or Physics to deliver lectures in this event.
 - The Department of Mathematics, in collaboration with the Departments of Economics and Statistics has submitted a proposal to set up a Centre for Big Data Analytics and Innovation. This centre will help to enhance interdisciplinary research activities on one platform.
 - The Department of Mathematics has initiated discussions with the Department of Statistics to explore the possibility of starting interdisciplinary courses at the PG level on a regular basis. We are also trying to increase our interdisciplinary activities by allowing our PG students to do their Masters Dissertations through inter-departmental collaborations.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.** :
 - The Department has received a formal proposal from a leading software company to start a special programme in Big Data Analytics in 2014 jointly with the help and support of industry. Considering this and similar suggestions, the Department has submitted a proposal jointly with the Departments of Economics and Statistics for creating of a new Centre for Big Data Analytics and Innovation.
 - The Department of Mathematics is exploring possibilities of starting collaborative student programme, e.g. student exchanges between Presidency University and other institutions in India and abroad, especially considering the national and international collaborations of Presidency University and its MoU with some institutions in India and abroad.

7. **Details of programmes discontinued, if any, with reasons** : Not applicable.

8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System** : Semester system.

9. **Participation of the department in the courses offered by other departments** :

- The UG students of the department take part in Gen-Ed programmes offered by other Science and Humanities departments. Also this department offers Gen Ed courses for other departments.

10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	0	
Associate Professors			
Asst. Professors	13	4	
Others			1 UGC-FRP

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
Tapan Saha	Ph.D	Assistant Professor	Qualitative Theory of Ordinary Differential Equations.	7.5 years	
Subhra Bhattacharya (UGC-FRP)	Ph.D	Assistant Professor	Mathematical Biology, Cosmology	4 years	
Shubhabrata Das	M.Sc	Assistant Professor	Geometric Group Theory	1.5 years	
Kuntal Banerjee	Ph.D	Assistant Professor	Complex Dynamics	3.5 years	
Pampa Paul	Ph.D	Assistant Professor	Representation Theory	1.5 years	

The Department also receives the service of 7 guest teachers.

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors** :

- **Professor Arnaud Chéritat** from University of Toulouse, France will visit the Department in March 2016.
- **Professor Kingshook Biswas** from Ramakrishna Mission Vivekananda University, India will visit the Department in the even semester 2016.

13. **Percentage of classes taken by temporary faculty / Guest Faculty**– programme-wise information

UG	PG
40%	60%

14. **Programme-wise Student Teacher Ratio**

UG	PG
12 : 1 (including guest teachers)	4 : 1 (including guest teachers)

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15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled	Actual
Academic support staff (technical)			
Administrative staff		West Bengal Govt. Staff-01, Contractual-01	

16. Research thrust areas as recognized by major funding agencies

i) Complex Dynamics iii) Geometric Group Theory v) Nonlinear Dynamics in Population Biology

ii) Cosmology iv) Representation Theory vi) Qualitative Theory of Ordinary Differential Equations

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

a) National

Name of the Teacher	Title	Duration	Funding Agency	Amount (in Lakhs)
Subhra Bhattacharya	Start up grant	2013-15	UGC	6.00

18. Inter-institutional collaborative projects and associated grants received :

a) National collaboration b) International collaboration

- Kuntal Banerjee has received local support of Euro 400/- from ANR-DFG-NSF and Rs. 70,000/- for travel from NBHM to attend the conference “Dynamical Developments: A Conference in Complex Dynamics & Teichmuller Theory” at Jacobs University, Bremen, Germany during 17th-21st August, 2015.
- Shubhabrata Das has received local support from ENS de Lyon to attend a conference titled “Groups in Action: A Conference in Honor of Etienne Ghys” at ENS de Lyon during 29th June - 3rd July, 2015, and for research collaboration with Dr. Sebastien Martineau at ENS Lyon.

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. None

20. Research facility / centre with

- state recognition
- national recognition
- international

None

21. Special research laboratories sponsored by / created by industry or corporate bodies: Nil

22. Publications : (during last four years) (List in annexure)

- Number of papers published in peer reviewed journals (national / international) : 11
- Monographs
- Chapters in Books
- Edited Books : 01

- Books with ISBN with details of publishers
- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Citation Index – range / average
- SNIP
- SJR
- Impact Factor – range / average
- h-index

23. Details of patents and income generated : Nil

24. Areas of consultancy and income generated : Nil

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

- Shubhabrata Das was invited to Delhi University for delivering a lecture in the International Conference on Geometry, Arithmetic and Analysis on Hyperbolic spaces, during December 10-15, 2014.
- Shubhabrata Das visited UMPA, ENS de Lyon, France during 21st June-14th July, 2015 for research collaboration.
- Kuntal Banerjee was invited to Chennai Mathematical Institute for delivering a lecture in the CMI Alumni Conference during January 7-8, 2015.

26. Faculty serving in : a) National committees b) International committees c) Editorial Boards d) any other (please specify)

- All the faculty members are part of the Board of Studies of the Department.
- Kuntal Banerjee served as a referee for Contemporary Mathematics of AMS in 2013-2014.
- Tapan Saha has been serving as a reviewer for Nonlinear Dynamics, Nonlinear Analysis, Applied Mathematics & Computations from 2012.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- Faculty members from this Department take part in various workshops, conferences and seminars at national and international level, as well attend UGC Refresher/orientation programmes on a regular basis.
- The Department organizes workshops and other events from time to time for as part of extra curricular activities.
 - The Department organized a “Teachers’ Enrichment Workshop” funded by National Centre for Mathematics during 4th – 9th January, 2016.
 - The Department is organizing the Mathematics sessions of “23rd West Bengal State Science & Technology Congress” during 28 - 29 February, 2016.
 - The Department will organize a weekly seminar series by Prof. Arnaud Chéritat during 21 - 25 March, 2016 at the time of his week long visit at Presidency University.

28. Student projects

- percentage of students who have done in-house project including inter-departmental projects

100% of PG second year students are doing in-house projects which are parts of the PG curriculum for final year masters students. 100% of second year UG students took part in class projects in small groups mentored by Kuntal Banerjee in the even semester 2015. One UG second year student and another PG first year student are doing reading projects under Kuntal Banerjee outside usual curriculum from odd semester 2015.

- percentage of students doing projects in collaboration with other universities / industry / institute

One UG student is doing a project under DST INSPIRE fellowship in collaboration with J.C. Bose Institute. Another UG student did a project under DST INSPIRE fellowship in Presidency University.

29. Awards / recognitions received at the national and international level by

- Faculty
- Doctoral / post doctoral fellows
- Students :
 - Fifteen students (among UG and PG) are receiving DST Inspire fellowship.
 - Arijit Ganguly (Passed B.Sc in 2012) and Soumya Chattopadhyay (Passed B.Sc in 2013) have won Madhava Mathematics Prize in 2012
 - Three other students (passed M.Sc in 2014) have qualified CSIR UGC NET under JRF category and are in the process of getting CSIR UGC fellowship.
 - Neethi Konar (Passed M.Sc. In 2014) has presented a paper titled “A Study on Three-Valued Paraconsistent Logics” in the international research school EASLLC 2014 held at Tsinghua University, China during July 2-8, 2014.
 - Aayushman Chkrabarti (Second year UG student) will present a poster titled “A different proof of Cantor-Bernstein-Schroeder Theorem” in 23rd West Bengal State Science & Technology Congress to be held at Presidency University during February 28-29, 2016.

30. Seminars/ Conferences/Workshops organized and the source of funding (national /international) with details of outstanding participants, if any.

Title of the Seminars/ Conferences/Workshops	National/ International	Year	Funding Agency
Teacher’s Enrichment Workshop	National	4th January-9th January, 2016	National Centre for Mathematics
West Bengal State Science & Technology Congress	National	28 February- 29 February, 2016	DST, Govt. of West Bengal
Week long seminars on Complex Dynamics	International	21 March-25 March, 2016	Presidency University

31. Code of ethics for research followed by the departments

In addition to the general principles of anti-plagiarism this department believes that research for the sake of research is not just useless, it is detrimental to the general cause of learning.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
UG	1951	26	5	100%	100%
PG	534	13	4	100%	100%

33. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
UG			5%	
PG	16%	84%		

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- 4 students have qualified CSIR-UGC NET in 2014.

35. Student progression

Student progression	Percentage against enrolled
UG to PG	16% students are enrolled in this University & majority of the others are pursuing postgraduate studies in other state/central Universities or the IIT's.
PG to M.Phil.	NA
PG to Ph.D.	Two (CSIR-UGC NET qualified) of our students have joined for Ph.D. in IIT Kanpur & IIT Kharagpur and one other is in the process of joining for Ph.D.
Ph.D. to Post-Doctoral	
Employed • Campus selection • Other than campus recruitment	Students are employed in Schools, Colleges, Research Institutes, Universities, Industries and some of them are also pursuing research in PhD programmes.
Entrepreneurs	

36. Diversity of staff

Percentage of faculty who are graduates of the same University	0
From other universities within the State	80
From Universities from other states	20
From Universities outside the country	

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:
None

38. Present details of departmental infrastructural facilities with regard to

1. Library : More than 600 books
2. Internet facilities for staff and students : Internet facilities are provided to all the academic staffs. Students can access Internet throughout the campus via WiFi.
3. Total number of class rooms : 06

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4. Class rooms with ICT facility : One classroom has a projector and another classroom is presently being renovated and will have a projector in near future. Currently, all the classrooms are WiFi enabled.
5. Students' laboratories : There is no dedicated computer laboratory for students in the department. However, the students can access a general computer laboratory in the university campus.
6. Research laboratories: Nil

39. List of doctoral, post-doctoral students and Research Associates

1. from the host institution/university :
2. from other institutions/universities: Dr. Sauvik Mukherjee joined the department as a post-doctoral fellow in September, 2015. The post-doctoral fellowship is funded by NBHM, India.

40. Number of post graduate students getting financial assistance from the university. 01

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- Interdisciplinary initiative conjointly with Statistics Department has been a long felt need. There have been meetings to start such a programme.

42. Does the department obtain feedback from

1. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
 - The department takes the feedback from faculty on curriculum and teaching learning process on a regular basis and holds periodic discussions with the BoS members, after which the department incorporates their suggestions in the existing curriculum.
2. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
 - The department has been obtaining feedback from the students on curriculum and the learning experience. But the analysis of the same is left to the individual faculty member.
3. alumni and employers on the programmes offered and how does the department utilize the feedback?
 - Not formally.

43. List the distinguished alumni of the department (maximum 10)

- i) Radhanath Sikdar, famous mathematician known for measuring the height of Mt. Everest.
- ii) Sir Anandamohan Basu, the first Indian Wrangler.
- iii) Sir Asutosh Mukherjee, the second Vice Chancellor of the Calcutta University.
- iv) Syamadas Mukhopadhyaya, Indian mathematician famous for proving the four vertex theorem for convex curves
- v) Satyendra Nath Bose, famous physicist known for Bose-Einstein Statistics.
- vi) Meghnad Saha, famous physicist known for Saha Ionization Equation.
- vii) Nikhil Ranjan Sen, famous mathematician known for his contributions in General Theory of Relativity and Fluid Dynamics.
- viii) Manik Bandyopadhyay, famous Bengali litterateur.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

The Department has organized many seminar lectures as part of the student enrichment programme. Chronologically the followings have been organized:

- i) Seminar lecture on “ Transcendental Numbers: Existence by Exhibiting One” delivered by Prof. K.C. Chattopadhyay, Burdwan University on 27/09/2013.
- ii) Seminar lecture on “ What is Algebraic Geometry?” delivered by Omprakash Das, University of Utah, USA on 01/08/2014.
- iii) Seminar lecture on “ Non-periodic Tiling” delivered by Mathias Moreno, ENS de Lyon, France on 27/10/2014.
- iv) Seminar lecture on “Stochastic Models and Time Series Analysis applies to Geophysics” by Kanadpriya Basu, University of Texas at El Paso, USA on 09/01/15.
- v) Seminar lecture “On Continued Fraction” delivered by Arijit Ganguly, TIFR, Mumbai on 16/02/15.
- vi) Seminar lecture on “Graphs and Rings” delivered by Arindam Banerjee, ISI, Kolkata on 27/07/2015.
- vii) Seminar lecture on “Classification of Surfaces” delivered by Sourav Ghosh, Universite Paris-Sud on 22/09/2015.

The Department of Mathematics has initiated regular Student Seminar from February 2016. The speakers and the details of the talk are as follows:

- 1) Aayushmaan Chakrabarti (UG second year, Mathematics Major) delivered a lecture on “Schroeder-Bernstein Theorem” on 04/02/2016.
- 2) Anubrato Bhattacharyya (UG second year, Mathematics Major) has delivered a lecture on “Some classical inequalities” on 18/02/2016.

45. List the teaching methods adopted by the faculty for different programmes:

- i) Traditional classroom teaching along with regular tutorials.
- ii) Computer lab teaching for MATLAB & C programming languages.
- iii) Showing video lectures delivered by eminent mathematicians and other relevant mathematical videos.
- iv) Regular student seminars followed by discussions.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Through teacher-student interaction, feedback from seminars and alumni interaction.

47. Highlight the participation of students and faculty in extension activities.

- “Teachers’ Enrichment Workshop” conducted for the benefit of local college teachers. The department plans to put up a stand for exhibiting mathematical models and phenomena to attract school students and participants of the 23rd WB State Science Congress 2016.
- The department has planned to conduct an outreach programme for the interested school students from the local schools in summer 2016.

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- The Department is putting up a stand for exhibiting mathematical models and phenomena to interested school students and participants in the 23rd West Bengal State Science & Technology Congress during 28-29 February 2016.

48. Give details of “beyond syllabus scholarly activities” of the department.

- Academic and administrative responsibilities of the university such as admission, examinations and major event organization.
- Regular seminar activity.
- Teachers of the department take special care in mentoring students to learn the subject and new materials outside classroom throughout the year beyond official teaching hours. Some UG and PG students have been engaged in reading projects and small research projects outside usual curriculum.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. - No.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Through research works in the areas of Complex Dynamics, Cosmology, Geometric Group Theory, Nonlinear Dynamics in Population Biology, Representation Theory by the faculty members of the department.

51. Strength, Weakness, opportunities and Challenges

- **Strengths of the Department:**
 - ◆ **Heritage, University structure and FRPDF scheme** : Presidency University has a special position in Indian academia considering its rich academic heritage which is 200 years old. Presently the university functions under recommendations from a Mentor Group, which has added value to the structure of the university. A special fund called FRPDF is given to every faculty member of this university every year, which can be used as a research grant for travel and other purposes.
 - ◆ **Teaching and Nurturing students** : The primary goals of this Department are teaching and nurturing students through regular classes, tutorials and discussions outside the classrooms. Students are encouraged to take part in one-to-one discussions with the teachers outside the class. They are also encouraged to participate in various workshops for university students. We take special care, so that our students appear for the national level examinations for further studies in reputed institutes like TIFR, ISI, IITs, IISc, IMSc, CMI, HRI etc. All the faculty members try to motivate the students to do well and always extend their support to those who are lagging behind. We have a healthy atmosphere in the Department and students can approach the teachers easily.
 - ◆ **Strong undergraduate admission test** : We have a strong admission test for the admission into undergraduate programme. This has helped us to choose quality students. Every undergraduate batch has some bright students who, we hope, will be among the top 1% of our country in every category at the national level.
 - ◆ **Internationally acclaimed researchers in Board of Studies** : Department of Mathematics formed its Board of Studies in 2015 and all the external members of the Board of Studies are internationally acclaimed researchers. Coincidentally, the external members of this board are all recipients of the Bhatnagar award, the highest prize for researchers in Mathematical Science in India. All the major academic decisions of the Department are taken in consultation with the members of this board and the Department is fortunate to have the service of these researchers for its regular academic activities.
 - ◆ **A unique undergraduate syllabus** : Our undergraduate programme has been thoroughly revised and the present undergraduate syllabus is unique in the country at the university level. This syllabus was

finalized with the help of our Board of Studies members, which has ensured a good standard of the current curriculum. In fact, some of the courses, in the current undergraduate programme are not even taught at the premiere institutions of Mathematics in India at the Bachelors level.

- ◆ **Research group in Geometry-Dynamics-Differential equations** : The areas of research of the present faculty members of this Department include Representation theory, Geometry, Dynamical systems, Differential equations, Cosmology and Population Biology. Among these topics, Geometry, Dynamical systems and Differential equations are close enough, and our Department is unique to have this as a research group in eastern India.
- ◆ **National and international collaborations in Mathematical events** : The Department has started holding regular workshops and seminars. We are going to organize thematic lecture series, workshops and conferences in the near future. Two eminent scholars (one from France and another from India) have confirmed their participation for a series of invited lectures at Presidency University in the next few months. This is not usually practiced at the university level in the country and Presidency University can achieve a special place in Indian academia if we can continue these programmes successfully.

- **Weaknesses of the Department:**

- 1) **Shortage of faculty members:** The Department is immensely suffering from the shortage of faculty members. Presently we only have five faculty members (four regular and one UGC-FRP) as of January 2016, whereas the number of sanctioned posts is fifteen.
- 2) **Shortage of administrative/clerical staff:** Due to shortage of administrative and clerical staffs in the Department the faculty members need to take care of all these responsibilities, which is hampering the academic life of the teachers.
- 3) **Postgraduate syllabus needs up-gradation:** Our postgraduate curriculum needs thorough revision and up-gradation. If we can do this, then our masters students will benefit most in all manner. This problem has been raised in the Departmental meetings and discussions with our external BoS members. Some initiations have been started by the present faculty members and they are willing to revise this curriculum within next academic year.

- **Opportunities and Challenges of the Department:**

1. **Infrastructural Development:** Being promoted to a university from a college, one of the major challenges of this Department as well as of the whole university is infrastructural development. The Department and the university both are making slow but steady progress in this direction. All the developments in this regard will enrich our facilities and infrastructure, as well enhance the opportunities of the Department.
 - a. Improvement of the seating arrangement for the faculty members of the Department and creation for sufficient space for running a full-fledged Department are presently under process.
 - b. Some of our classrooms are being renovated at present, and other classrooms will definitely be upgraded in future in terms of state of the art facilities. We wish to install projectors in all the classrooms. Currently all the classrooms are WiFi enabled.
 - c. Internet connectivity at the Department received a huge boost toward the end of 2015 when the LAN of the Department was upgraded and a new WiFi access point was installed. The Department wishes to have a dedicated computer laboratory for its faculties and students in future.
 - d. The library of the university has subscribed MathScinet on January 2016 for the Department of Mathematics. A huge class of online journals have been made available through Springer Link and JSTOR. However the department and the university have still some rooms for improvement in this regard.

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2. **Initiation of PhD programme:** The department is yet to start its PhD programme which is a challenge to overcome and an opportunity for its future development.
3. **Collaboration with industry and other institutes:** The department wishes to establish a healthy relationship with the industry and this is one of the opportunities that the department can create, also it is a challenge to start the process and nurture this relation. A possible solution of this can be found if the centre for Big Data Analytics becomes a reality in future. Also there are possibilities for improvements when collaborations with other academic institutions are considered.

52. Future plans of the department

- **Full revision of PG Syllabus:** Initiations have been taken to revise the PG curriculum in the Department completely. Hopefully this will be completed by the next academic year.
- **Future Research:** The followings are planned for future research in the Department.
 - ◆ **Qualitative Theory of Ordinary Differential Equations:** Stability analysis, bifurcation analysis of vector fields.
 - ◆ **Complex Dynamics:** The nature and properties of rotation domains and Herman rings will be studied.
 - ◆ **Geo metric Group Theory:** Different notions of boundaries at infinity for finitely generated groups, such as Floyd boundary and Poisson boundary are planned to be studied. This also includes the following topics: acylindrically hyperbolic groups, small cancellation and graded small cancellation groups and their generalisations, property rapid decay of groups.
 - ◆ **Representation Theory:** Representation theory of Lie algebras; representation theory of real reductive Lie groups : admissible representations, discrete series representations, Harish-Chandra modules, branching rule, Littelmann's path model.
 - ◆ **Cosmology:** Problems related to cosmology, interacting dark matter-dark energy, wormholes, emergent universe etc.
 - ◆ **Population Biology:** Problems in the area of interacting species, epidemiology and brain disorders.
- **Regular Seminars/Workshops/Conferences:** We would like to continue the seminars and workshops on a regular basis, which have already started in the Department. After that we would like to organize thematic conferences.
- **National and International collaborations:** The Department wishes to host senior mathematicians as visiting professors from India and abroad. This initiation has already been started and we wish to continue this further.
- **Commencing PhD programme:** A primary aim of this Department is to start its PhD programme. Hopefully this can be realized once we have more faculty members.
- **Centre for Big Data Analytics and Innovation:** To initiate ties with the industry, and to collaborate with other institutions, the Department has submitted a proposal for creation of a Big Data Analytics centre in future.
- **Dedicated Computer Lab:** The Department wishes to establish a dedicated computer lab for its students and faculty members, where special mathematical software will be available.
- **Promotion of mathematical research in interdisciplinary areas:** The Department is considering the possibilities of interdisciplinary research, including the existing initiatives.

Annexures

1. List of Research Projects in Last four Years

Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned	Fund Received	Completed/ongoing
2013	2015	UGC	Subhra Bhattacharya	UGC Start up grant	Rs. 6 Lacs	Rs. 6 lacs	Ongoing

2. List of Seminars and Conferences Organized in last three years

Sl No.	date/Month	Topic	Source of Funding
1.	21/03/16-25/03/16	Week long seminars on Complex Dynamics	Presidency University
2.	28/02/16-29/02/16	West Bengal State Science & Technology Congress	DST, Govt. of West Bengal
3.	04/01/16 - 09/01/16	Teacher's Enrichment Workshop	National Centre for Mathematics
4.	22/09/2015	Classification of Surfaces	Presidency University
5.	27/07/2015	Graphs and Rings	Presidency University
6.	16/02/2015	On Continued Fractions	Presidency University
7.	09/01/2015	Stochastic Models and Time Series Analysis applies to Geophysics	Presidency University
8.	27/10/2014	Non-Periodic Tilings	Presidency University
9.	01/08/2014	What is Algebraic Geometry?	Presidency University
10.	27/09/2013	Transcendental Numbers: Existence by Exhibiting One	Presidency University

3. Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No	Name of the Teacher	Title of Seminar	Organized by	Status (National/International)	Role as Resource person /Invited Speaker/ Participation
1.	Tapan Saha	International Conference on Emerging Trends in Applied Mathematics 12-14th February, 2014	University of Calcutta in Collaboration with SINP & IACS, Kolkata	International	Presented a Paper
2.	Tapan Saha	Workshop on Applied Nonlinear Dynamics & Chaos 26th May-31st May, 2014	GCETT & DIET, West Bengal, India	National	Invited Speaker

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Sl. No	Name of the Teacher	Title of Seminar	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker/ Participation
	Tapan Saha	Enrichment Programme on “Algebra, Analysis & Differential Equations” February 22, 2016	K N College Berhampore, West Bengal	National	Invited Speaker
3	Jayanta Sen	Logic and its Applications celebrating the Alan Turing Year 29th September-1st October, 2012	Calcutta Logic Circle in collaboration with School of Cognitive Science, Jadavpur University and Indian Institute of Bio-Social Research and Development	National	Presented a Paper
4	Jayanta Sen	Recent Developments in Mathematics and its Applications 12th March, 2013	Department of Pure Mathematics, University of Calcutta	National	Presented a Paper
5	Jayanta Sen	Seminar on Logic and Cognition celebrating 25 years of Calcutta Logic Circle 30th October-1st November, 2013	Calcutta Logic Circle & School of Cognitive Science, Jadavpur University	International	Invited Speaker
6	Shubhabrata Das	Geometry and Analysis on Hyperbolic Spaces 10th December-15th December, 2014	NBHM, India NSF, USA	International	Invited Speaker
	Shubhabrata Das	Madhava Mathematics Camp October 29 to November 6, 2015	St. Xavier’s College, Kolkata, West Bengal	National	Resource Person
7	Kuntal Banerjee	CMI Alumni Conference 5th -9th January, 2015	CMI	International	Invited Speaker
8	Kuntal Banerjee	Dynamical Developments: A Conference in Complex Dynamics & Teichmuller Theory. 17th -21st August, 2015	Jacobs University, Bremen, Germany, DFG, NSF, ANR	International	Participation
9	Kuntal Banerjee	TEW on Complex Analysis & Topology 22nd-27th December, 2014	NCM, INDIA	National	Invited Speaker
10	Kuntal Banerjee	Aspects of Dynamical Systems 3rd -16th November, 2014	CIMPA, Tribhuvan University, DST INDIA	International	Participation

Sl. No	Name of the Teacher	Title of Seminar	Organized by	Status (National/ International)	Role as Resource person /Invited Speaker/ Participation
11	Kuntal Banerjee	VSSP, HRI June-July, 2014	HRI	National	Invited Speaker
12	Kuntal Banerjee	Maths Seminar April 2014	NISER	National	Invited Speaker
13	Kuntal Banerjee	Maths Seminar January 2014	CMI	National	Invited Speaker
14	Kuntal Banerjee	ISL on Topology & Geometry December-2013	NCM	National	Invited Speaker
15	Kuntal Banerjee	Maths Seminar November-2013	IISER, Mohali	National	Invited Speaker
16	Kuntal Banerjee	COOL Seminar, IHP Paris June-2013	University of Paris -Est Creteil, France	International	Invited Speaker
17	Kuntal Banerjee	Topics in Complex Dynamics 10th-14th June, 2013	University of Barcelona, Spain	International	Participation
18	Kuntal Banerjee	Advanced School and Workshop in Real and Complex Dynamics 20th-31st May, 2013	ICTP, Italy	International	Participation
19	Kuntal Banerjee	Maths Seminar September 2012	RKMVU, India	National	Invited Speaker

4. List of Publications in papers (peer-reviewed only), Books, Monographs, Last Four Years

2012

- i) Pal, P., Saha, T. and Banerjee, M., 2012, A delayed predator prey model with strong Allee effect in prey population growth. *Nonlinear Dynamics*, v. 68(1) p. 23-42.
- ii) Bhattacharya, S., and Adler, F., 2012, A time since recovery model with varying rates of loss of immunity, *Bull. Math. Biol.*, v. 74, p. 2810-2819.
- iii) Paul, Pampa., Raghavan, K.N., Sankaran, Parameswaran., 2012, L₀-types common to a Borel-de Siebenthal discrete series and its associated holomorphic discrete series, *C. R. Acad. Sci. Paris* 350 (23- 24), 1007-1009.

2013

- i) Pal, P., Haque, M., Saha, T. and Ryu, K., 2013, A predatory commensalism model in a deterministic and stochastic environment. *Dynamics of Continuous, Discrete & Impulsive Dynamical Systems*, v.20(1), p. 1-32.

2014

- i) Banerjee, K. 2014: On the widths of the Arnol'd Tongues. *Ergodic Theory & Dynamical Systems*. v.34 (5), p. 1451-1463.
- ii) Das, S. and Mj, M., 2014: Appendix to Ending Laminations and Cannon-Thurston Maps. *Geometric And Functional Analysis*, v. 24, p. 297-321.

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- iii) Paul, Pampa., Raghavan, K.N., Sankaran, Parameswaran., 2014, Borel-de Siebenthal Discrete Series and Associated Holomorphic Discrete Series. Journal of Lie Theory v. 24 (2), 475-501, Heldermann Verlag.

2015

- i) Das, S. And Mj, M., 2015: Controlled Floyd Separation and Non-Relatively Hyperbolic Groups. Journal of the Ramanujan Mathematical Society, v. 30 (3) p. 267-294.
- ii) Pal, P. and Saha, T., 2015 : Qualitative analysis of a predator prey model with double Allee effect in prey. Chaos, Soliton & Fractals, v. 73, p. 36-63.
- iii) Pal, P. and Saha, T. 2015, Dynamical complexities of a ratio dependent predator prey model with strong additive Allee effect. Springer Proceedings in Mathematics and Statistics, v. 146, p. 287-298.
- iv) Pan, S., Bhattacharya, S. and Chakrabarty, S. 2015, An analytic model for interacting dark energy and its observational constraints. MNRAS v. 452, p. 3038–3046.

Accepted:

- i) Bhattacharya, S. and Chakrabarty, S. :A Model of Emergent Universe in Inhomogeneous Space-Time. Accepted, Classical Quant. Gravit.
- ii) Das, S. and Mj., M. : Semiconjugacies Between Relatively Hyperbolic Boundaries.

5. Names of Students with outstanding achievements and placements for higher studies (last four years)

- i) Arijit Ganguly (2012): Enrolled for Integrated Ph.D programme in TIFR, Mumbai.
- ii) Pratyush Nath (2013): Enrolled for Integrated Ph.D programme in TIFR, Mumbai.
- iii) Mahboob Alam (2014): Enrolled for M Math at ISI, Kolkata.
- iv) Namrata Biswas (2015) : Enrolled for M.Sc. at IIT, Mumbai.
- v) Ayan Halder (2015): Enrolled for M.Sc at IIT, Kanpur

Evaluative Report of the Department : Physics

1. **Name of the Department :** PHYSICS
2. **Year of establishment :** 1865
3. **Is the Department part of a School/Faculty of the university? :**
 - Under the Faculty of Natural and Mathematical Sciences
4. **Names of programmes offered :**
 - B. Sc. (Hons.) in Physics
 - M. Sc. in Physics
 - Ph.D. in Science (Physics)
5. **Interdisciplinary programmes and departments involved :**
 - Interdisciplinary programmes are offered at different levels.
 - GenED courses for UG sem-1 to sem-4
 - Interdisciplinary researches are carried out.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
 - Credit transfer mode: Parts of M. Sc. Sem-4 dissertation and Ph. D. coursework are conducted in collaboration with research institutes like Indian Institute of Astrophysics.
 - Non-credit academic exercise: Students carry out short-term academic activities, such as summer projects at University of Groningen, The Netherlands
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:**
 - Semester with choice based credit system
9. **Participation of the department in the courses offered by other departments:** No
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	4	1 (on lien)	1 (on lien)
Associate Professors	4	4	4
Asst. Professors	13	8	8
Others (UGC Faculty Recharge)	1	1	1

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Arabinda Nayak	Ph D	Associate Professor	Experimental Condensed Matter Physics & Materials Science	Full-time teaching 19 yrs.	2 (Supervising)
Barun Raychaudhuri	Ph D	Associate Professor	Electronics, Semiconductor Device and Remote Sensing	Full-time teaching 19+ yrs.	One student awarded PhD of Cal. Univ. in 2010
Barnali Chakrabarti	Ph D	Associate Professor	Nuclear Physics	15 Years	Two students awarded PhD in last 4 yrs
Debasish Datta	Ph D	Assistant Professor	X-ray & crystallography	10	
Gour Bhattacharya	Ph D	Assistant Professor	Theoretical Particle physics and Cosmology	13.5 years	
Kanan Kumar Datta	Ph D	Assistant Professor (UGC)	Astrophysics & Cosmology	14 months	
Muktish Acharyya	Ph D	Associate Professor	Solid State Physics		
Rabindra Nath Gayen	Ph D	Assistant Professor	Materials Science	5 years	
Ratna Koley	Ph D	Assistant Professor	High Energy Physics, Gravitation	9 Years (after Ph.D.)	
Ritaban Chatterjee	Ph D	Assistant Professor	Astrophysics	Teaching 2.5 yrs. Post Doc. 4 yrs.	
Saumyadip Samui	Ph D	Assistant Professor	Astrophysics & Cosmology	6 yrs (post PhD)	
Somak Raychaudhury	Ph D	Professor (on lien)	Astrophysics & Cosmology		
Suchetana Chatterjee	Ph D	Assistant Professor	Astrophysics and Cosmology	Teaching Experience 2013-2015, Research Experience 2003-2015	3 (ongoing)
Sukanta De	Ph D	Assistant Professor	Experimental Materials Science	Teaching : 3years Post PhD: 9 years	1 ongoing

28. List of senior Visiting Fellows, adjunct faculty, emeritus professors : None at present

29. Percentage of classes taken by temporary faculty: 20 to 30%

30. Programme-wise Student Teacher Ratio:

- UG: 7 ● PG: 4

31. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:

- Actual: 10

32. Research thrust areas as recognized by major funding agencies: Main thrust areas:

- Astrophysics
- Cosmology
- Condensed Matter Physics
- Materials Science
- Earth Science

33. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. (Synopsis given here and full List in annexure)

- Synopsis

Funding Agency	No. of Projects	Fund received (last 2 years)
UGC	4	2991000
DST	6	19370178
CSIR	1	504000
Total (on going) in last two years	11	2,28,6,5178

- Nine teachers 11 ongoing projects.
- **DST-FIST to Physics Department: 1 crore 85 lakh sanctioned**

34. Inter-institutional collaborative projects and associated grants received

a) National collaboration

Dr. Barnali Chakrabarti:

1. Prof. Tapan Kumar Das, Retired Professor, Calcutta University.
2. Prof. V. K. B. Kota, PRL, Ahmedabad

b) International collaboration

Dr. Barnali Chakrabarti:

1. Prof. Lorentz Cederbaum, University of Heidelberg, Germany.
2. Prof. Luca Salasnich, University of Padova, Italy.
3. Dr. Andrea Trombettoni, SISSA and ICTP, Italy.
4. Prof. Sylvio Canuto, University of Sao Paulo, Brazil.
5. Prof. M. L. Lekala, University of South Africa, South Africa.
6. Dr. Axel U Lode, University of Basel Switzerland

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Dr. Suchetana Chatterjee

- 1) Prof. Adam Myers (University of Wyoming, USA),
- 2) Prof. Ryan Hickox (Dartmouth College, USA),
- 3) Prof. Zheng Zheng (University of Utah)
- 4) Prof. Jeff Newman (University of Pittsburgh)
- 5) NASA Project entitled, "Modeling AGN Feedback in Cosmological Simulations" PI- Daisuke Nagai

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- DST Fund (total) to individual teachers: 1 crore 18 lakh (rounded)

20. Research facility / centre with

- National and state recognition: Laboratories with precision instruments are developed utilizing the fund of DST-FIST. The research facilities can be offered to other interested institutions on requirement.
- international recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies:

Two research laboratories have been established and are being upgraded by DST-FIST fund including provision for (i) x-ray diffractometry, (ii) UV-VIS-NIR spectrometer system, (iii) Thin Film Deposition Unit, (iv) Electrochemical Analyzer/ Workstation and others.

22. Publications:

- Number of papers published in peer reviewed journals (international): 85
- Monographs
- Chapters in Books
- Edited Books
- Books with ISBN with details of publisher
- Number listed in International Database (For e.g. Web of Science, Scopus,
- Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Citation Index – range / average Average: 197
- SNIP 0.9 to 2.9
- SJR 1 to 5.2
- Impact Factor: Range 1 to 31, Average 7
- h-index: 7 to 24

List given in annexure

23. Details of patents and income generated

- Patent obtained at Government expense: Indian Patent Application No. 482/KOL/2013 of 29.04.2013.
- Applicant: Presidency University.
- Inventor: Barun Ray Chaudhuri

- Title of the Invention: “Bidirectional wavelength division multiplexing system and method thereof” No income generated.

24. Areas of consultancy and income generated: None

25. Faculty selected nationally / internationally to visit other laboratories / institutions /industries in India and abroad

- Dr. Arabinda Nayak visited Japan during 22nd May, 2015 to 27th May, 2015 for the purpose of carrying out experiments at the Indian Beamline at Photon Factory, KEK, Japan.
- Dr. Barnai Chakrabarti visited as visiting Professor in University of South Africa Oct-Nov 2014
- Dr. Debasish Datta Visiting Research Fellow, Ernst Moritz Arndt University of Greifswald, Germany, July, 2006 –August, 2006.
- Dr. Suchetana Chatterjee, Kavli Fellow, Kavli Foundation, USA, Nationally Invited participant at the “Frontiers of Science Meet”, Indo-US Science-Technology Forum
- Dr. Suchetana Chatterjee, External Expert on the Thesis Committee of Ms. My Nguyen, University of Wyoming.
- Dr. Gour Bhattacharya, Visiting Associate at Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, during August 2011 – July 2014.

26. Faculty serving in

a) National committees

- Dr. Suchetana Chatterjee, University Associate, Inter University Center for Astronomy and Astrophysics, Pune, India

b) International committees

- Dr. Kanan K. Datta is Member, SKA international science working group, Epoch of Reionization & Cosmic Dawn and Coordinator, SKA-India science group for Epoch of Reionization and Cosmology

c) Editorial Boards

- Dr. Muktish Acharyya has acted as Editorial Board member of
 - Frontiers in interdisciplinary Physics (ISSN 2296-424X)
 - Review of Applied Physics (ISSN 2327-1612)
 - American Journal of Physics and Application (ISSN:2330-4286)
 - Heliyon (Elsevier)

d) any other (please specify)

- Dr. Ritaban Chatterjee: Reviewer to the Cycle 17 NASA Chandra Space Telescope Proposal Peer Review held 2326 June, 2015 at Boston, Massachusetts, USA.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- Teachers are encouraged to join orientation/refresher courses and attend workshops. Workshop and training school are under consideration.

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28. Student projects

- o percentage of students who have done in-house projects including inter-departmental projects: 90% at the present semester
- o percentage of students doing projects in collaboration with other universities/ industry/ institute: 10% at the present semester

29. Awards / recognitions received at the national and international level by

- Faculty
Dr. Barnali Chakrabarti nominated as Regular Associate of ICTP for 2015-2020.
- Doctoral / post doctoral fellows
Departmental research fellows with NET/RET: Tamaghna Maitra, Rudrani Kar Chowdhury, Shibsankar Dutta
- Students
KVPY Fellowship: Mr. Amitava Banerjee, Mr. Sunip Mukherjee, Mr. Kaustav Mitra
JBNSTS Fellowship: Mr. Kaustav Mitra, Mr. Anwesh Majumdar, Ms. Puja Roy, Mr. Soumya Roy

30. Seminars/ Conferences/Workshops organized and the source of funding (national international) with details of outstanding participants, if any. (List in annexure)

- Weekly seminar/colloquium on various important topics are regularly arranged for student/scholar enrichment

31. Code of ethics for research followed by the departments

To achieve academic excellence in conformity with UGC Regulation and with scope for academic collaboration with universities/institutes of international/national repute.

32. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
UG (B. Sc. Hons. In Physics) in 2013	2493	31	10	100%	100%
PG (M. Sc. In Physics) in 2013	829	22	8	100%	100%
UG (B. Sc. Hons. In Physics) in 2014	3052	27	3	100%	100%
PG (M. Sc. In Physics) in 2014	1044	22	7	100%	100%
Ph. D. in science (Physics) in 2014	13	4	3	100%	100%
UG (B. Sc. Hons. In Physics) in 2015	1873	35	8	100%	100%
PG (M. Sc. In Physics) in 2015	1000	23	11	100%	100%

33. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from from universities outside the State	Other countries
UG (B. Sc. Hons. In Physics)	N.A.			
PG (M. Sc. In Physics)	12%	88%	0	0
PhD in science (Physics)	57%	43%		

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

- NET-2014: five
- NET-2012: two
- JEST-2015: nine
- JEST-2012: 14
- JAM-2015: ten

35. Student progression

Student progression	Percentage against enrolled
UG to PG (from our own students)	12% in current year (in PU) Over all >98%
PG to M.Phil.	
PG to Ph.D. (from our own students)	8%
Ph.D. to Post-Doctoral	-
Employed ● Campus selection ● Other than campus recruitment	Students are employed in academics, teaching, industry and administration.

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	28.6%
from other universities within the State	71.4%
from universities from other States from	0
universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

None

38. Present details of departmental infrastructural facilities with regard to

- a) Library: departmental seminar library with more than 1000 books
- b) Internet facilities for staff and students: Available
- c) Total number of class rooms: 5
- d) Class rooms with ICT facility: 1
- e) Students' laboratories: 7
- f) Research laboratories: 5

39. List of doctoral, post-doctoral students and Research Associates

- Ph. D. students from the host institution/university

Presidency University

1. Tamaghna Maitra, 2. Sukhendu Mukherjee 3. Banashree Sadhukhan 4. Shibsankar Dutta 5. Sangita Bera 6. Rudrani Kar Chowdhury 7. Ajay Halder

- from other institutions/universities:

40. Number of post graduate students getting financial assistance from the university: No

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- The new syllabus for the UG & PG curriculum was formed by consulting external experts and with regular meeting of departmental board of studies. Some new features, such as UG elective and guided project were incorporated.

42. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

- The feedback is obtained through discussions in faculty meeting and board-of-studies meeting and utilized in subsequent teaching-learning processes.

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Some faculty members obtain student feedback in an informal basis and they implement changes based on discussion with students. A formal student-feedback system is under preparation.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

43. List the distinguished alumni of the department (maximum 10)

- Prof. Prasanta Chandra Mahalanobis, a pioneer of statistics received B. Sc. Hons. Physics (1912) from this department, was associated with the Department from 1917 to 1945 and retired as the Principal of Presidency college in 1948. It was during his association with the Physics Department, that the Indian Statistical Institute was started in a room of the Baker Laboratory of the Physics Department.
- Prof. Sisir Kumar Mitra, honoured as FRS conducted remarkable researches and established fundamental discoveries related to atmospheric ionosphere. He initiated a new department at the University of Calcutta that later became the Institute of Radio Physics and Electronics.
- Prof. Amal Kumar Raychaudhuri, whose phenomenal contribution to general relativity is Raychaudhuri Equation, joined the college in 1961 and attained legendary fame. Students at both the undergraduate and postgraduate levels have testified to his greatness as a teacher. He retired as the departmental head in 1986.
- Prof. Shyamal Kumar Sengupta, received his undergraduate education and was Professor Emeritus in this department. During the two decades of his association with the Presidency College he was a potential teacher and researcher making significant contributions in the field of theoretical nuclear physics and condensed matter physics. He created a large research group in Theoretical Solid State Physics.
- Prof. Rajendralal Sengupta, who headed the Department for a decade, was a co-worker of a Nobel Laureate, Prof. Blackett of the Imperial College of Science and Technology. He was a leading expert in cloud-chamber technology, and his help was sought by high-energy physics laboratories all over India.
- Prof. Bijay Shankar Basak, who joined Presidency College in 1957 from the Indian School of Mines, set up the X-ray Crystallography Laboratory in 1958. Prof Basak was the head of the Department from 1975 to 1982 after which he became Principal of the College.

- Dr. Chanchal Kumar Majumdar was the first Director of the S. N. Bose National Centre for Basic Sciences, Kolkata
- Dr. Ashoke Sen, currently at HRI, Allahabad, selected as FRS added to the glory of the department by his contributions to the String Theory in High Energy Physics. He is among the first recipients of the Fundamental Physics Prize.

It is impossible to encapsulate the works of all the renowned teachers, who have held aloft the banner of the department, in a short historical account but they live in the memory of their students established in every nook and corner of the world.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- Weekly colloquium from eminent national and international speakers
- Student Presentations in astro-particle tea journal club and even at colloquium slots.
- Student participation in local/national conferences.
- Guided visits and academic trips for students in eminent laboratories/institutions, such as: Inter-University Centre for Astronomy and Astrophysics (IUCAA) and Saha Institute of Nuclear Physics (SINP).
- Students are regularly encouraged to visit national labs, research institutes and execute extra-curricular research projects.
- Special classes are conducted in some courses involving discussion of research topic, paper presentation, interactive learning sessions etc.

45. List the teaching methods adopted by the faculty for different programmes.

- In addition to blackboard, audio visual interactive learning
- Regular tutorial and problem solving sessions are organized
- Students are engaged into active learning through class presentation, term-paper work, presentation of research papers.
- In many cases peer review on talks and term paper presentation are adopted.
- Interested UG & PG students carry out summer projects

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Continuous evaluation through homework assignments and class tests, tutorial sessions, personal meeting and discussion with students
- Anonymous online feedback taken from students at the end of the semester by individual faculty members through their own initiative.
- Through regular informal discussion session with students at personal level and attempt to provide individual care to students

47. Highlight the participation of students and faculty in extension activities.

- Regular attendance of colloquium
- Regular attendance and presentation through talks and posters in conferences and workshops

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48. Give details of “beyond syllabus scholarly activities” of the department.

- Term paper writing on research topics or history of science
- Several undergraduates and masters students are engaged in independent research with faculty members.
- Faculty regularly hold professional and career development discussion session with students.
- Students take part in national and international conferences and present their research work. Students (even UG and PG) collaborate on national and international research projects.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

- DST-FIST has evaluated the departmental report and sanctioned a grant of Rs. 1 crore 85 lakh

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- The Physics department has all the way looked after a balanced progress of teaching and research. In order to bring novelty in teaching and enhancing the process of knowledge procurement, weekly colloquium, student participation in symposium/conference, guided visit to eminent laboratories, interactive learning and other such practices are encouraged. Facilities are extended to interested students for carrying out summer projects in India and abroad in addition to regular projects in curriculum.
- The faculty members and researchers have been carrying out research, both theoretical and experimental in several academic fields, such as astrophysics, cosmology, materials, condensed matter, earth science and particle physics. As contribution to new knowledge, total 85 original research papers have been published from Physics department during the last five years on various topics like electrical and magnetic properties of materials, metal and semiconductor devices, thin films, nanocomposites, earth & atmospheric particles, bosons, black hole, quasar, star formation, 21 cm signal, galaxies, dark energy and many others.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength: Quality of incoming students, quality of faculty members of different age group with excellent career profile, strong alumni base.

Weakness: Lack of research infrastructure and environmental support. Total faculty strength is less than that required.

Opportunities: Funds extended by DST and UGC. The location of this Institution, being at the heart of a megacity, it is easy to attract students, teachers, speakers and visitors of good potential and to conduct seminars and related activities.

Challenges: To make the department as a world class research centre.

52. Future plans of the department.

- To develop experimental equipment & infrastructure for researches on materials science and devices.
- To build research groups incorporating Ph D students, associates and faculty for working on cosmology

Annexures

1. List of Research Projects in Last four Years

Sl. No	Year of Initiation	Year of Completion	Funding agency	PI	Title	Fund Sanctioned (Rs.)	Fund Received (Rs.)	Completed/ongoing
1	2009	2013	CSIR	Arabinda Nayak (CoPI)	Polymer-Inorganic Hybrid Nanocomposites - Preparation, Characterization and their Potential as Nanodielectrics.	13,68,000	13,68,000	Completed
2	2015	2018	UGC	Arabinda Nayak (PI)	Development, synthesis and characterization of ZnSnP ₂ chalcopyrite thin film for photovoltaic devices.	11,90,000	7,48,500	Ongoing
3	2013	2016	DST	Kanan Kumar Datta	Unveiling cosmic reionization through radio interferometric observations of neutral hydrogen	22 lakh	15 lakh	Ongoing
4	2015	2017	UGC	Ritaban Chatterjee	Investigating the Effect of Turbulence in the Emission Variability of Blazar Jets	6 lakh	6 lakh	Ongoing
5	2015	2018	DST	Rabindra Nath Gayen	Solution-processed nano-structured superstrate CZTS solar cells	2220000	1740000	Ongoing
6	2012	2017	DST	Sukanta De	Nanostructure materials and their hybrids/composites as super capacitor for energy storage and sensor applications	84,45,000	57,43,593	Ongoing
7	2014	2017	DST	Sukanta De	2-dimensional nanomaterials for flexible photo detector	24,12,000	14,50,000	Ongoing
8	2011	2013	UGC	Debasish Datta	Study of deposition, morphology and thermal fragmentation of supported metal nanoclusters	1,52,000	1,34,000	Completed
9	2015	2017	UGC	Suchetana Chatterjee	Investigating the Halo Occupation Distribution Properties of Active Galactic Nuclei	600,000	600,000	Ongoing
10	2015	2017	UGC	Saumyadip Samui	Study of galactic outflows and their effects on the intergalactic medium	600,000	600,000	Ongoing
11				Barnali Chakrabarti	Many-body effects on the stability and anisotropic deformation of ultracold dipolar gases near Feshbach resonance	22 lakh		Ongoing

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2. List of Seminars and Conferences Organized in last three years

Sl No.	date/ Month	Topic	Source of Funding	Status (Local/State/national level (student enrichment programme))
1.	09/08/2014	Topical Conference on Gravity and Cosmology	Presidency University and Registration Charges from the participants	Local
2.	22/12/2014 23/12/2014	Public Lecture Series on Particle Physics and Condensed Matter Physics	Alumni Registration/Donation/Presidency University/Sponsorship	Student enrichment programme.

In addition, weekly seminar/colloquium on various important topics are regularly arranged for academic enrichment of students, scholars and teachers. Speakers are invited from India and abroad. A few are mentioned below date-wise.

13.08.2014: Prof. Subir Sarkar, Head, Particle Theory Group, Department of Physics, University of Oxford, UK & Niels Bohr Professor, Niels Bohr Institute, Copenhagen, Denmark.

Title: The road to quantum gravity

20.08.2014: Prof. Satyaban Bhunia, Surface Physics & Material Science Division, Saha Institute of Nuclear Physics, Kolkata.

Title: Physics and realization of low dimensional semiconductors for device applications

03.09.2014: Dr. Shradha Mishra, INSPIRE Faculty, S. N. Bose National Center for Basic Sciences, Kolkata - 700 098.

Title: Role of density field in an active nematic

10.09.2014: Prof. Sudhansu Sekhar Mandal, Department of Theoretical Physics, Indian Association for the Cultivation of Science, Kolkata - 700 032.

Title: Nano-Scale Physics in Strongly Disordered Macroscopic Superconductors

24.09.2014: Dr. Kuntal Ghosh, Machine Intelligence Unit, Indian Statistical Institute, Kolkata - 700 108.

Title: The Psychophysics of Vision

15.10.2014: Prof. Sabyasachi Bhattacharya, A. J. C. Bose Distinguished Professor in Natural Sciences, Presidency University, Kolkata - 700 073.

Title: Persistence of useful memory: what do you see and what can you remember? (Part I)

22.10.2014: Prof. Krishnendu Sengupta, Theoretical Physics Department, Indian Association for the Cultivation of Sciences, Kolkata - 700 032.

Title: Introduction to basic Graphene physics

29.10.2014: Prof. Anuradha Lohia, Vice Chancellor, Presidency University, Kolkata.

Title: The Uncertainty of Survival

30.10.2014: Dr. Pratap Raychaudhuri, Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai 400005.

Title: Disordered Superconductors: A TIFR Story

05.11.2014: Prof. Palash B. Pal, Senior Professor, Theory Division, Saha Institute of Nuclear Physics, Kolkata - 700 064.

Title: Discovering particles

19.11.2014: Prof. Arnab Rai Choudhuri, Department of Physics, Indian Institute of Science, Bangalore - 560 012.

Title: The Mysterious Magnetic Personality of Our Sun

21.11.2014: Dr. Deepak Kar, ATLAS Research Associate, University of Glasgow, UK.

Title: LHC: the ingredients of a discovery

07.01.2015: Dr. Dipankar Maitra, Department of Physics/Astronomy, Wheaton College, Massachusetts, USA.

Title: Escaping the fatal attraction of black holes: Recent advances toward understanding relativistic jets

14.01.2015: Prof. Pratik Majumdar, Astroparticle and Cosmology Division, Centre for Astroparticle Physics, Saha Institute of Nuclear Physics, Kolkata.

Title: Exploring the Universe with High Energy Particles and Photons

21.01.2015: Dr. Matt Hilton, Astrophysics & Cosmology Research Unit, University of KwaZulu-Natal, Durban, South Africa.

Title: Searching for galaxy clusters with the Sunyaev-Zel'dovich effect

28.01.2015: Dr. Dipankar Banerjee, Associate Professor, Indian Institute of Astrophysics, Bangalore-560 034.

Title: Magnetic Waves in the Solar Atmosphere and India's first dedicated space mission "Aditya"

04.02.2015: Prof. Dipankar Bhattacharya, Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune 411007.

Title: Cosmic Explosions

11.02.2015: Indranil Chattopadhyay, Aryabhata Research Institute for observational sciences (ARIES), Manora Peak, Nainital 263002, Uttarakhand, India.

Title: Numerical Simulation of astrophysical plasma with relativistic equation of state

18.02.2015: Prof. Sabyasachi Bhattacharya, A. J. C. Bose Distinguished Professor in Natural Sciences, Presidency University, Kolkata - 700 073.

Title: Persistence of useful memory: what do you see and what can you remember? (Part I)

25.02.2015: Supriya Chakrabarti, Lowell Center for Space Science and Technology (LoCSST), University of Massachusetts Lowell, USA.

Title: An experimental research program to directly image exoplanet environment

04.03.2015: Prof. Parthasarathi Majumdar, Department of Physics, Ramakrishna Mission Vivekananda University, Belur, India.

Title: The Quantum and the Continuum: Einstein's Dichotomous Legacies

18.03.2015: Dr. Arnab Kundu, Theory Division, Saha Institute of Nuclear Physics, Kolkata

Title: Gauge-String Duality and Strongly Coupled Systems

25.03.2015: Prof. Debasish Majumdar, Astroparticle Physics & Cosmology Division, Centre for Astroparticle Physics, Saha Institute of Nuclear Physics, Kolkata.

Title: Dark Matter: Evidence, (possible) candidates and detection.

01.04.2015: Dr. Tapas Kumar Das, Physics Group, The Harish-Chandra Research Institute, Allahabad.

Title: Black Hole Shadow Imaging

3. Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No.	Name of Teacher	Title of Seminar	Date	Organized by	Status (national/International)	Role as Resource Person
1	Arabinda Nayak	International Conference on Nanoscience and Technology (ICONSAT 2012)	20 – 23 January, 2012.	ARCI, Hyderabad, India	International	Resource Person
2	Arabinda Nayak	QuantumWise, a Nano molecules/device package	11.01.2014	WBUT, Kolkata and Integrated Microsystem, India	National	Attended
3	Arabinda Nayak	Bringing the Nanoworld Together	24.11.2014 - 5.11.2014	Oxford Instruments	National	Attended
4	Barun Raychaurdhuri	Digital Earth 2015, Canada	5–9 October, 2015	International Society for Digital Earth	International	Contributed Speaker
5	Barun Raychaurdhuri	ICE-CCN-2013, Tuticorin	March 25-26, 2013	Infant Jesus College of Engineering and Technology	International	Contributed Speaker
6	Barun Raychaurdhuri	Remote sensing of environment: North East Indian perspectives	December 4–5, 2014	Dept. of Electronics & Comm. Technology Gouhati University	National	Invited Speaker
7	Barun Raychaurdhuri	UGC sponsored refresher course	June 18 – July 9, 2013	Dept. of Physics, University of Calcutta	National	Invited Speaker
8	Barun Raychaurdhuri	Winter School under UGC	March 4–22, 2013	UGC Networking Resource Centre, University of Calcutta	National	Invited Speaker
9	Kanan K. Datta	Workshop on Statistical Applications to Cosmology and Astrophysics (STATCOS-MO15), ISI, Kolkata	10-13 Feb, 2015	ISI, Kolkata	National	Contributed
10	Kanan K. Datta	Workshop on “Indian Participation in the SKA”	16th Feb, 2015	NCRA-TIFR, Pune	National	Contributed
11	Kanan K. Datta	Advanced workshop on Cosmological Structures from Reionization to Galaxies: Combining efforts from analytical and numerical methods	12-15 May, 2015	ICTP, Trieste, Italy	International	Contributed
12	Kanan K. Datta	TCGC: Topical Conference on Gravity and Cosmology (Eastern Region)	28 Feb, 2015	IIT KGP	National	Contributed
13	Ritaban Chatterjee	Topical Conference on Gravity and Cosmology - Eastern Region (TCGC-ER)	13-12-2013	Saha Institute of Nuclear Physics	National	Invited speaker

Sl. No.	Name of Teacher	Title of Seminar	Date	Organized by	Status (national/ International)	Role as Resource Person
14	Ritaban Chatterjee	Meeting of the Astronomical Society of India (ASI)	20-03-2014 to 22-03-2014	IISER, Mohali	National	Poster presentation
15	Ritaban Chatterjee	“Introduction to Active Galactic Nuclei” at the Introductory Workshop on Relativistic Astrophysics	21-08-2014 to 23-08-2014	Department of Physics, Gauhati University and IUCAA, Pune	National	Resource person
16	Ritaban Chatterjee	“Multi-Wavelength Study of Successive Outbursts in the Blazar PKS 0208-512” at the Topical conference on Hard X-Ray Astronomy: Astrosat and Beyond	24-09-2014 to 26-09-2014	Tata Institute of Fundamental Research. Held at the International Centre, Goa	International	Invited speaker
17	Ritaban Chatterjee	“Nature of Multi-band Outbursts of Fermi Blazars” at the conference titled “Extragalactic Relativistic Jets: Cause and Effect”	14-10-2015 to 17-10-2015	ICTS, Bangalore	International	Invited speaker
18	Rabindra Nath Gayen	Singapore-India Programme of Cooperation (POC) Workshop on “Advanced Materials and Energy	April 21-24, 2013	IACS, Kolkata	International	Participant
19	Rabindra Nath Gayen	National Workshop on Application of Radiation in Physical, Chemical and Life Sciences	September 04-06, 2013	UGC-DAE Consortium for Scientific Research, Kolkata Centre & Centre for Research in Nanoscience & Nanotechnology, University of Calcutta	National	Participant
20	Rabindra Nath Gayen	Six Days Training Program on Computer Interfaced Science Experiments	28th April, 2014 to 3rd May, 2014	Inter-University Accelerator Center, New Delhi	National	Participant
21	Rabindra Nath Gayen	Bringing the Nanoworld Together	24-25 November, 2014	Oxford Instruments at SINP, Kolkata	International	Participant
22	Rabindra Nath Gayen	National symposium on Recent Trends in Instrumentation Science and Technology	19-21 March 2015	Department of Instrumentation Science, Jadavpur University, Kolkata	National	Oral presentation
23	Ratna Koley	COSMOCRUISE 2015: At the Edge of Discovery	2nd - 9th September, 2015	Institute de Fisica de Cantabria, Barcelona, Spain	International	Invited Speaker
24	Suchetana Chatterjee	Supermassive Black Holes and their Host Dark Matter Halos	14/10/2015	SINP	International	Invited Speaker

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Sl. No.	Name of Teacher	Title of Seminar	Date	Organized by	Status (national/ International)	Role as Resource Person
25	Suchetana Chatterjee	Presidency University Cosmology Research Highlights	10/08/2015-12/08/2015	IUSSTF and US-National Academy of Sciences	International	Invited Participant
26	Suchetana Chatterjee	Supermassive Black Holes and their Host Dark Matter Halos	07/08/2015	University of Wyoming	International	Invited Speaker
27	Suchetana Chatterjee	IUCAA visit as part of the Associateship program	30/05/2015-20/06/2015	IUCAA	National	Resource person
28	Suchetana Chatterjee	The Halo Occupation Distribution of Active Galactic Nuclei	10/02/2015-13/02/2015	ISI and IUCAA	National	Contributed Speaker
29	Suchetana Chatterjee	A Direct Measurement of the Quasar Mean Occupation Function: Breaking Degeneracies between Halo Occupation Distribution Models	28/01/2015-30/01/2015	SINP	International	Contributed Speaker
30	Suchetana Chatterjee	A Direct Measurement of the Quasar Mean Occupation Function: Breaking Degeneracies between Halo Occupation Distribution Models	20/03/2015-22/03/2015	Astronomical Society of India (IISER Mohali)	International	Contributed Speaker
31	Suchetana Chatterjee	Cosmological Evolution of Supermassive Black Holes	13/12/2013	SINP	Local	Invited Speaker
32	Suchetana Chatterjee	A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracy of Halo Occupation Distribution Models	09/09/2013-10/09/2013	California Institute of Technology	International	Contributed Poster
33	Suchetana Chatterjee	X-ray Surface Brightness Profiles of Active Galactic Nuclei in the Extended Groth Strip: Implications for AGN Feedback	25/08/2013	University of Kentucky	International	Invited Speaker
34	Suchetana Chatterjee	The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars	05/08/2013-09/08/2013	KITP Santa Barbara	International	Contributed Poster
35	Suchetana Chatterjee	The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars	21/05/2013	MIT Haystack Observatory	International	Contributed Speaker

Sl. No.	Name of Teacher	Title of Seminar	Date	Organized by	Status (national/ International)	Role as Resource Person
36	Suchetana Chatterjee	Studying Structure Formation in the Universe: New Frontiers and Future Challenges	09/05/2013	IIT Kharagpur	National	Invited Speaker
37	Sukanta De	National Workshop on Application of Radiation in Physical, Chemical and Life Sciences	4th-6th Sept, 2013	Centre for Research in Nanoscience & Nanotechnology, University of Kolkata	National	
38	Sukanta De	Bringing the Nanoworld Together	24th-25th November 2014	Oxford Instruments at SINP, Kolkata	National	

4. List of Publications in Papers (peer-reviewed only), Books, Monographs, Last Four Years (Year wise and alphabetically)

2011

Acharyya M. (2011), Form invariant Sommerfeld electrical conductivity in generalised d - dimensions, Communications in Theoretical Physics, 56 , 943(IF:0.74)

Acharyya M. and Acharyya A. (2011), Evidence of invariance of time scale at critical point in the Ising meanfield equilibrium equation of state, Communications in Theoretical Physics, 55 , 1109 (IF:0.74)

Acharyya M.(2011), Monte Carlo study of the dynamic phase transition in Ising metamagnet driven by oscillating magnetic field, Journal of Magnetism and Magnetic Materials, 323 ,2872 (IF:1.78)

Acharyya M.(2011), Nonequilibrium phase transition in the kinetic Ising model driven by propagating magnetic field wave, Physica Scripta, 84 , 035009 (IF:1.20)

Acharyya M.(2011), Pauli spin paramagnetism and electronic specific heat in generalised d dimensions, Communications in Theoretical Physics, 55, 901(IF:0.74)

Gayen, R. N., Hussain, S., Pal, A. K., 2011, CdS/ZnO nanorods as novel window layer for solar cell application. Journal of Nano Energy and Power Research, v.1, p. 71-81.

Gayen, R. N., Sarkar, K., Hussain, S., Bhar, R., Pal, A.K., 2011, ZnO thin films by modified sol-gel technique. Indian Journal of Pure and Applied Physics, v. 49, p. 470-477. (Citation: 36; Impact Factor of the Journal: 0.766)

Haldar, I., Biswas, M., and **Nayak, A.**, 2011, Microstructure, dielectric response and electrical properties of polypyrrole modified poly (N-vinylcarbazole) – Fe₃O₄ (PNVC - Fe₃O₄) nanocomposites. Synthetic Metals, **Vol. 161**, P. 1400 – 1407. (Impact Factor: 1.829).

Haldar, I., Kundu, A., Biswas, M., and **Nayak, A.**, 2011, Preparation and evaluation of a poly (N-vinylcarbazole) – Fe₃O₄ (PNVC-Fe₃O₄) nanocomposite. Matter.Chem & Phys., **Vol. 128**, P. 256 – 264. (Impact Factor: 2.234).

Raychaudhuri, B., 2011, On the determination of the emission wavelength of an infrared LED with common laboratory instruments, European Journal of Physics, v. 32, p.935 (Impact Factor 0.619)

Sharma, M. K., **Gayen, R. N.**, Pal, A. K., Kanjilal, D., Chatterjee, R., 2011, Complex impedance spectroscopy of Mn-doped Zinc Oxide nanorods films. Solid State Communications, v. 151, p. 1182-1187. (Citation: 08; Impact Factor of the Journal: 1.897)

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Sharma, M. K., **Gayen, R. N.**, Pal, A. K., Kanjilal, D., Chatterjee, R., 2011, Room Temperature Ferromagnetism in Mn doped ZnO nanorods prepared by hybrid wet chemical route. *Journal of Alloys and Compounds*, v.509, p. 7259-7266. (Citation: 11; Impact Factor of the Journal: 2.999)

2012

Acharyya A. and Acharyya M.(2012), Bose - Einstein condensation in arbitrary dimensions, *Acta Physica Polonica B*, 43 , 1805 (IF:1.01)

Acharyya M. (2012), Nonequilibrium phase transition in the kinetic Ising model: Absence of tricritical behaviour in presence of impurities, *Acta Physica Polonica B*, 43 , 2041.(IF:1.01)

Bonning, E. W., Urry, C. M., Bailyn, C., Buxton, M., **Chatterjee, R.**, Coppi, P., Fossati, G., Isler, J., Maraschi, L., 2012, SMARTS Optical and Infrared Monitoring of 12 Gamma-Ray bright Blazars, *Astrophysical Journal*, v. 756, p. 13-28. (Citation: 53; Impact Factor of the Journal: 5.993)

Buxton, M. M., Bailyn, C. D., Capelo, H. L., **Chatterjee, R.**, Dincer, T., Kalemci, E., Tomsick, J. A., 2012, Optical and Near Infrared Monitoring of the Black Hole X-Ray Binary GX 339-4 during 2002-2010, *Astronomical Journal*, v. 143, p. 130-145. (Citation: 23; Impact Factor of the Journal: 4.024)

Chakravorty, S., **Samui, S.** and Gachhui, R., SSDNA Cutter v0.0 a new in silico RFLP tool in C, 2012, *Advances in Bioscience and Biotechnology*, 3, 321 (citation 0, impact factor 1.8)

Chatterjee, R., Bailyn, C., Bonning, E. W., Buxton, M., Coppi, P., Fossati, G., Isler, J., Maraschi, L., Urry, C. M., 2012, Similarity of the Optical-IR and Gamma-Ray Variability of Fermi Blazars, *Astrophysical Journal*, v. 749, p. 191-204. (Citation: 40; Impact Factor of the Journal: 5.993)

Chatterjee, S., Degraf, C., Richardson, J., Zheng, Z., Nagai, D., and DiMatteo, T., 2012, The Halo Occupation Distribution of Active Galactic Nuclei. *Monthly Notices of the Royal Astronomical Society*, v. 419, p. 2657-2669. (Citation: 21: Impact Factor of the Journal: 5.521)

Datta, D., Mondal, S. and Bhattacharyya, S. R., 2012, Growth process of GaAs ripples as a function of incident Ar-ion dose, *Appl. Surf. Sci.* v. 258, p. 4152. (Cited in 2 publications. , Impact factor: 2.103)

Datta, K. K., Garrelt Mellema, Yi Mao, Ilian T. Iliev, Paul R. Shapiro, 2012, Light cone effect on the reionization 21-cm power spectrum, *MNRAS*, v. 424, p. 1877 (Citation: 21, Impact factor: 5.1)

Datta, K. K., Martina M. Friedrich, Garrelt Mellema, Ilian T. Iliev, Paul Shapiro, 2012, Prospects of observing a quasar HII region during the Epoch of Reionization with redshifted 21cm, *MNRAS*,

Gayen, R. N., Hussain, S., Ghosh, D., Bhar, R., Pal, A.K., 2012, Two-source co-evaporation technique for synthesis of indium phosphide films with controlled composition. *Journal of Alloys and Compounds*, v. 531, p. 34-40. (Citation: 02 ; Impact Factor of the Journal: 2.999)

Gayen, R. N., Hussain, S., Bhar, R., Pal, A.K., 2012, Synthesis and characterization of Indium phosphide films prepared by co-evaporation technique. *Vacuum*, v. 86, p. 1240-1247. (Citation: 02 ; Impact Factor of the Journal: 1.858)

Haldar, I., Biswas, M., and **Nayak, A.**, 2012, Preparation and evaluation of microstructure, dielectric and conductivity (ac/dc) characteristics of a polyaniline/ poly N-vinylcarbazole/ Fe₃O₄ nanocomposites. *J. Polym. Res.*, **Vol. 19**, P. 9951:1-9. (Impact Factor: 1.733).

Haldar, I., Biswas, M., **Nayak, A.** and Sinha Ray, S., 2012, Morphological, dielectric and electrical conductivity characteristics of clay-containing nanohybrids of poly (N-vinylcarbazole) and polypyrrole. *J. Nanosci. Nanotech.*, **Vol. 12**, P. 7841 – 7848. (Impact Factor: 1.563).

Hussain, S., **Gayen, R. N.**, Dutt, M. B., Pal, A. K., 2012, Surface modification of GaAs induced by argon ion implantation. *Indian Journal of Pure and Applied Physics*, v.50, p. 650-656. (Citation: 01 ; Impact Factor of the Journal: 0.766)

King, P.J., Higgins, T. M., **De, S.**, Nicoloso, N., and Coleman, J.N., 2012, Percolation Effects in Supercapacitors with Thin, Transparent Carbon Nanotube Electrodes, *Percolation Effects in Supercapacitors with Thin, Transparent Carbon Nanotube Electrodes*. *ACS Nano* v. 6, p. 1732-1741. (Citation: 29, Impact factor: 10.774)

Raychaudhuri, B., 2012, Remote sensing of solar induced chlorophyll fluorescence at atmospheric oxygen absorption band around 760 nm and simulation of that absorption in laboratory, *IEEE Transactions on Geoscience and Remote Sensing*, v. 50, p. 3908 (Impact Factor 2.933)

Raychaudhuri, B., 2012, Synthesis of mixed pixel hyperspectral signatures, *International Journal of Remote Sensing*, v. 33, p. 1954 (Impact Factor 1.359)

Richardson, J., Zheng, Z., **Chatterjee, S.**, Nagai, D., and Shen, Y., 2012, The Halo Occupation Distribution of SDSS Quasars. *Astrophysical Journal*, v755, p.30:12 (Citation: 24: Impact Factor of the Journal: 6.733)

Sorel, S., Lyons, P. E., **De, S.**, Dickerson, J.C., and Coleman, J.N., 2012, The dependence of the optoelectrical properties of silver nanowire networks on nanowire length and diameter. *Nanotechnology*, v. 23, p.185201. (Citation: 31, Impact factor: 3.98). v. 424, p. 762 (Citation: 21, Impact factor: 5.1)

2013

Acharyya M., (2013), Random field Ising model swept by propagating magnetic field wave: Athermal nonequilibrium phase diagram, *J. Magn. Magn. Mater.* 334 11 (IF:2.00).

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Harker, G. J. A.; Jelić, V.; Kazemi, S.; Koopmans, L. V. E.; Labropoulos, P.; Martinez, O.; Offringa, A. R.; Pandey, V. N.; Schaye, J.; Thomas, R. M.; Veligatla, V.; Vedantham, H.; Yatawatta, S., 2013, Probing reionization with LOFAR using 21-cm redshift space distortions, *MNRAS*, V. 435, p.460-474, (Citation: 21, Impact factor : 5.1)

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2015

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5. List of Conference Publications Last Four Years (Year wise and alphabetically)

2013

Raychaudhuri, B., Remote sensing of atmospheric nanoparticles and effect of wavelength on the size estimation, Proceedings of the IEEE international conference “ICE-CCN’13” March25–26, 2013, Infant Jesus College of Engineering and Technology, Tuticorin, India, IEEE Catalog No. CFP13IIN-ART, pp. 104–108, 2013 (ISBN 978-1-4673-5036-5)

2014

Acharyya M., Patterns, dynamics and phase transitions in Ising ferromagnet driven by magnetic field wave, 2014 ,Journal of Physics: Conference Series (IOP) 638 (2015) 012008. (DOI:10.1088/1742-6596/638/1/012008) in the international conference STATPHYS-VIII, held at SNBNCBS, Kolkata, India, December 1-5, 2014 (Invited Speaker)

6. Synopsis of Publications

Publications		2011	2012	2013	2014	2015	Total
Paper (peer-reviewed)	National						
	International	12	21	16	22	14	85
Books & Monographs	National						
	International						
Articles in magazine/Newspaper							

7. Summer Projects conducted for students from other institutes and for own students and summer projects arranged for own students in other institutes

Students from other Institute

Under Dr. Sukanta De:

Pijush Kanti Dhara, B. Tech (Electrical Engg.), Govt. College of Engg. & textile Tech. Berhampore,

(a) “Synthesis and characterization of Graphene and reduced Graphene Oxide”, 20/7/2013 to 21/11/2013

(b) “Electrical Properties of Reduced Graphene Oxide-Poly (Vinyl Alcohol) Nanocomposites”, 5/1/2014 to 6/5/2014

Under Dr. Kanan Datta:

Mafuz Golam (MSc from IIT KGP)-2015

Under Dr. Suchetana Chatterjee:

Anirban Roy (Burdwan University) 2014

For own students: All students in PG Sem-4 and UG Sem-6 in Physics have to carry out a project work as part of the curriculum. Some willing students conduct extra-curricular projects also, as mentioned below.

Under Dr. Suchetana Chatterjee:

- Somdutta Ghosh (BSc 3rd yr, extra-curricular project titled “Modeling the Emission Variability in Accertion Disks Around Black Holes”).
- Namrata Roy (BSc 3rd yr-MSc 1st yr, Extra-curricular project titled “Emission Variability of Quasars”).
- Aritra Ghosh (BSc 3rd yr, Extra-curricular project titled “Gamma-Ray Variability of Fermi Blazars”).
- Anwesh Majumder (BSc 2nd yr, Extra-curricular project titled “Gravitational N-Body Simulation and Simple Application to Solar System Dynamics”).
- Alankar Dutta (BSc 2nd yr, Extra-curricular project titled “Detection of Extrasolar Planets: Modeling Transit Light Curves”).

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- Mr. Ranajay Dutta (BSc 2nd yr, Extra-curricular project titled “Detection of Extrasolar Planets from Kepler Data”).

Under Dr. Barun Raychaudhuri:

- Puja Roy, BSc 2nd Year 2014, project entitled, “Ground-Based Spectroscopic Studies on Atmospheric Water Vapour and its Seasonal Changes” for receiving Research Project Mentorship Grant under Scholarship for Higher Education, DST-INSPIRE programme.
- Sayantani Kayal, BSc 2nd Year 2015, project entitled, “Studies on the properties of semiconductor p-n junction under illumination: validated with solar cell and photodiodes” for receiving Research Project Mentorship Grant under Scholarship for Higher Education, DST-INSPIRE programme.
- Swadhiti Maji, BSc 2nd Year 2015, project entitled, “Studies on light emission from forward biased p-n junctions: experimental verification with light emitting diodes and semiconductor laser” for receiving Research Project Mentorship Grant under Scholarship for Higher Education, DST-INSPIRE programme.

8. Names of Students with outstanding achievements and placements for higher studies (last four years)

Joint Admission Test 2015 (for entrance to M.Sc at IITs)

- Mr. Suman Kundu (Rank 3)
- Ms. Sanskriti Das
- Mr. Sudipta Dhar
- Mr. Satyanu Bhadra
- Ms. Preetha Sarkar

Joint Entrance Screening Test (JEST) 2015 (for integrated Ph D)

Nine UG students have secured ranks within 250 and four PG students secured ranks within top 100 with five of them within the top 50 as mentioned below.

- Mr. Suman Kundu (Rank 2)
- Mr. Sudipta Dhar (Rank 18)
- Mr. Pratik Nandy (Rank 28)
- Ms. Sanskriti Das (Rank 34)
- Mr. Bhaskar Biswas (Rank 20)

National Eligibility test (NET) in June 2014

- Mr. Arnab Paul
- Ms. Jhuma Ghosh
- Mr. Argha Banerjee
- Mr. Arpan Kundu
- Mr. Sattwik Sarkar)

Others Remarkable Achievements

- UG3 students Ms. Sanskriti Das and Mr. Suman Kundu got selected to the integrated PhD programs at Tata Institute of Fundamental Research and National Center for Radio Astronomy. They are also pre-selected for the Inter University Center for Astronomy and Astrophysics PhD program.
- UG3 students Ms. Sanskriti Das, Mr. Sudipta Dhar and Mr. Suman Kundu got selected in the integrated PhD program at Harish Chandra Research Institute.
- UG3 student Mr. Aritra Ghosh participated in the prestigious radio astronomy winter school at the National Center for Radio Astronomy and secured the first prize for his project and presentation.
- UG2 student and JBNSTS fellow, Mr. Kaustav Mitra was awarded the third prize for his project work and presentation in the JBNSTS symposium.
- UG1 students Mr. Anwesh Majumder and Mr. Soumya Roy were awarded the prestigious JBNSTS fellowship
- PG2 student Ms. Shilpa Sarkar was selected to work for her Master’s thesis at Indian Institute of Astrophysics (IIA) under the supervision of Prof. Dipankar Banerjee with full institutional scholarship and joined for PhD at Aryabhata Research Institute of observational sciences (ARIES).

9. Special Assistance Received by the Department (last four Years)

Scheme	Year of sanction	Duration	Fund Sanctioned
DST-FIST	2014	5 years	Rs. 18500000
Total			Rs. 18500000

A brief history of the Department

The Department of Physics, established in 1865, was one of the earliest Physics departments in the country, where Acharya Jagadish C. Bose became the first Indian to set up a world-class research laboratory in 1885. Among the students, Prasanta Mahalanabis, Sisir K. Mitra, Amal Kumar Raychaudhuri and Ashok Sen attained universal fame. As part of Presidency University, the department offers BSc and MSc degrees in Physics, with its research currently being concentrated in Astrophysics & Cosmology and in theoretical and experimental Condensed matter Physics. The department is in a rapid re-building phase, with laboratories and computational facilities. There is also plan of working on interdisciplinary subjects like Biology and Earth Science. The department is in the process of consolidating its research activities into an internationally leading programme.

Currently, the department has 14 faculty members including one professor on lien all having strong research background. The department has received DST-FIST grant sanctioned for almost of Rs 2 crore and total individual grant to faculty members for almost 1 crore 38 lakh. An overwhelming majority of our undergraduates have INSPIRE scholarships, and most enter the top MSc/PhD programmes qualifying in All-India competitive examinations like NET and JEST.

Evaluative Report of the Department: Statistics

1. Name of the Department : STATISTICS

2. Year of establishment : 1944

3. Is the Department part of a School/Faculty of the university? :

- under the Faculty of Natural and Mathematical Sciences

4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) :

- BSc (Hons) in Statistics
- MSc in Statistics
- GenEd Programme (UG)

5. Interdisciplinary programmes and departments involved :

Interdisciplinary programmes are offered at different levels:

At research level :

- (i) Research programme between departments Statistics and Physiology and a research paper was published in collaboration with the Department of Physiology.
- (ii) Research programme between the art of Statistics, PU and The School of Oceanographic Study, JU

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

- (i) PG Sem 3 students participated in an Internship course directly under MOSPI (2015), and
- (ii) all of them are now (i.e in Sem 4) doing an Internship programme in ‘PROPHECY SENSORLYTICS’ (2015 - 16) as non-credit academic exercise for self enrichment .

7. Details of programmes discontinued, if any, with reasons : N.A.

8. Examination System: Annual/Semester/Trimester/Choice Based Credit System : Semester with choice-based credit system

9. Participation of the department in the courses offered by other departments :

- Participated as Course Instructor in Biostatistics of M.Sc. (Biotechnology) in the DBS (in 2013 and 2014 in the then Department of Biotechnology).

10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	0	
Associate Professors			1 (WBES)
Assistant Professors	13	5	
Others			

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance :

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil.students guided for the last 4 years
Biswajit Roy	M.Sc.	Associate Professor (WBES)	Design of Experiments, Operations Research in M.Sc.	32	Nil
Radhakanta Das	M.Sc., Ph.D	Assistant Professor	Statistical Inference (Parametric, Nonparametric,- Bayesian), Regression Theory	16	Nil
Saurav De	M.Sc., Ph.D	Assistant Professor	SQC, OR, OT, Reliability in M.Sc.	12	Nil
Arunangshu Biswas	M.Sc., Ph.D	Assistant Professor	Probability Theory, MCMC	06	Nil
N.V.Krishna Chaitanya Yerroju	M.Sc.(OR)	Assistant Professor	Operations Research, Reliability, Applied Statistics	03	Nil
Atanu Kumar Ghosh	M.Sc.	Assistant Professor	Statistical Inference, Multivariate Analysis, Statistical Computing	1 year running	Nil

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors :

- i) Dr. Sisir Kumar Samanta, Associate Professor of Statistics, Kalyani University - during 2011 to 2014.
- ii) Dr. Avijit Mandal, Research Associate, ISI, Kolkata - in 2013.
- iii) Dr.Radhakanta Das, Assistant Professor of Statistics, Burdwan University - during 2011 to 2012.
- iv) Dr. Shirsendu Mukherjee, Assistant Professor of Statistics, Behala College, Kolkata.
- v) Dr. Gaur Mohan Saha, Retd. Professor of Statistics, ISI, Kolkata.

13. Percentage of classes taken by temporary faculty – programme-wise information :

- i) UG 10%
- ii) PG 15%

14. Programme-wise Student Teacher Ratio :

- i) UG 60:6 (Student :Teacher)
- ii) PG 40:6 (Student :Teacher)

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

- Administrative staff (filled): Three Peons (one Senior and two Junior) & One Secretarial Staff

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- 16. Research thrust areas as recognized by major funding agencies :** The thrust area of the research works w.r.t. the faculty members are Clinical Trials, Stochastic Process : Probability Theory, Markov Chain Monte Carlo (MCMC) techniques, Nonparametric Inference, Missing Data Analysis, EM Algorithm etc.
- 17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.** Nil
- 18. Inter-institutional collaborative projects and associated grants received**
- a) National collaboration : (Without any grant)
- (i) Research paper published in collaboration with the Department of Physiology, Kalyani University, Kolkata.
 - (ii) Research paper published in collaboration with the Department of Statistics, Calcutta University, Kolkata
 - (iii) Research papers published and communicated in collaboration with Indian Statistical Institute, Kolkata.
 - (iv) Research paper communicated in collaboration with the Department of Statistics, Gauhati University, Assam.
- b) International collaboration : Nil
- 19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.:** A proposal has recently been sent to RUSA to build a Big-Data Lab in collaboration with the Depts of Economics and Mathematics
- 20. Research facility / centre with :** N. A.
- state recognition
 - national recognition : same as in 19
 - international recognition
- 21. Special research laboratories sponsored by / created by industry or corporate bodies :** Nil
- 22. Publications:** See Annexure 4
- Number of papers published in peer reviewed journals (national / international) 10
 - Monographs
 - Chapters in Books
 - Edited Books
 - Books with ISBN with details of publishers
 - Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
 - Citation Index–range / average
 - SNIP
 - SJR
 - Impact Factor – range / average
 - h-index

23. Details of patents and income generated : N.A.

24. Areas of consultancy and income generated : N.A.

25. Faculty selected nationally / internationally to visit other laboratories / institutions /industries in India and abroad :

Biswajit Roy acted as a Resource Person in Refresher Courses in CU (organized by Academic Staff College, CU) and also acted as the same in a Workshop in ISI, Kolkata.

26. Faculty serving in

a) National committees: None

b) International committees: None

c) Editorial Boards: None

d) Any other (please specify):

i) Dr. Radhakanta Das- Served as reviewer for one national journal and one international journal, Member of Indian Bayesian Society, Calcutta Statistical Association, Indian Society for Probability and Statistics

ii) Dr. Saurav De-served as reviewer for two national journals, Lifetime member of Calcutta Statistical Association.

iii) Biswajit Roy has been acting as an Assistant Coordinator, IGNOU since 1992

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- Department always encourages its faculty members to attend such academically recharging programmes. As a result, two of its faculty members participated in the Refresher Course arranged by the ASC, Calcutta University during 02 - 21 st July, 2012. Saurav De is now attending an Orientation Programme under Jadavpur University, during Feb 17 to March 15, 2016.

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects:

75%. The project work is included in their PG Semester 4 course curriculum.

N.B. : All PG 1st year students do individual projects as applications of Statistics using R-packages.

- percentage of students doing projects in collaboration with other universities/industry / institute:

25%. Some students pursued their M.Sc. project dissertation in collaboration with Dept. of Statistics, CU and in ISI, Kolkata

29. Awards / recognitions received at the national and international level by

- Faculty: Two members received PhD in the years 2014 and 2015, respectively.
- Doctoral / post doctoral fellows: Nil
- Students: Many UG and PG graduates have been successfully enrolled in PhD programs in different Universities and Institutes in India and abroad.

30. Seminars/ Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Detailed in Annexure

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31. Code of ethics for research followed by the departments :

Since the department has not yet started the PhD programme, so the formalisation of such an Ethics Committee is yet to occur.

The following points are adhered to for publication and research:

- (i) Prohibition of plagiarism
- (ii) Encouraging independent and innovative work
- (iii) Proper and detailed referencing of any result, idea or approach taken from previous literature
- (iv) Clear mention of data courtesy while collecting real data from secondary sources
- (v) Maintaining confidentiality of primary data

32. Student profile programme-wise:

Year	Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
2013	UG	893	17	5	100%	100%
	PG	108	7	6	100%	100%
2014	UG	786	18	5	100%	100%
	PG	150	14	6	100%	100%
2015	UG	790	19	5	100%	100%
	PG	160	9	13	100%	100%

33. Diversity of students :

Name of the Programme (refer to question no. 4)	% of students students from the same university	% of students from other universities within the State	% of from universities outside the State	students from other countries
UG	-----	-----	-----	N.A.
PG	25%	75%	0	N.A.

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Indian Statistical Service (ISS)	01
UGC-CSIR National Eligibility Test (NET)	1
Junior Research Fellow (Indian Statistical Institute)	2
Mtech. in Quality, Reliability and Operations Research (ISI)	01
TOEFL	More than 05

35. Student progression (provide List in annexure)

Student progression	Percentage against enrolled
UG to PG	Slightly less than 100
PG to M.Phil.	Not known specifically (M.Phil done elsewhere)
PG to Ph.D.	50 (on an average)
Ph.D. to Post-Doctoral	N.A. during the tenure 2011 - 15
Employed	
● Campus selection	20 (approx.)
● Other than campus recruitment	30 (approx.)
Entrepreneurs	Not known specifically

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	50
from other universities within the State	35
from universities from other States	15
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period : Ph.D. 2 (two)

Saurav De, PhD registration under Calcutta University

Arunangshu Biswas, PhD registration under ISI, Kolkata

38. Present details of departmental infrastructural facilities with regard to

- Library : Department has an old Seminar Library containing approximately 600 books. In addition, there are a few issues of renowned journals like Biometrika, Annals of Mathematical Statistics, CSA Bulletin, Sankhya etc. and informative Statistical Abstracts whose subscriptions (in hard copies) had been stopped years ago. There is, however, a high demand for such journals and we hope to improve and enrich our collection with many more current books relevant to the modern curriculum.
- Internet facilities for staff and students : Satisfactory
- Total number of Class rooms : 5
- Class rooms with ICT facility : 1 (equipped with ceiling-mount projector and an Interactive Board (Panasonic Board)
- Students' laboratories : 2 - 1 (for UG) + 1 (for PG)
- Research laboratories : Yet to establish

39. List of doctoral, post-doctoral students and Research Associates

- from the host institution/university : N.A.
- from other institutions/universities : N.A.

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40. Number of postgraduate students getting financial assistance from the university. Nil

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- Two Syllabus Workshops were held to frame UG and PG Syllabi respectively in 2011 before the commencement of the University Academic Programmes. Then, in 2013, the existing syllabi were thoroughly revisited and modified by the Departmental Academic Committee.

42. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

- Yes. As soon as some feedback, comments or proposals come from the faculty side, the department raises those issues collectively in its DAC meeting, and considers every issue from an affirmative view point of view, so that some productive or constructive solutions emerge and which can be executed in the near future.

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Yes. Besides a Survey conducted centrally by the Presidency University on the feedback from Students, the Department constantly monitors the curriculum and teaching-learning-evaluation process, based on students' feedback through regular meetings of the Teacher-Student Committee.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

b) Any suggestion obtained from the alumni in their occasional visits is seriously considered by the department and where feasible, is implemented.. Feedback of the employers is usually communicated via some official meetings or through University Circulars. We try our level best to abide by the instructions.

43. List the distinguished alumni of the department (maximum 10) :

- i) Professor Atindra Mohan Gun (1949)
- ii) Professor Bhagabat Das Gupta (1950)
- iii) Professor Milan Kumar Gupta (1950)
- iv) Professor Soutir Kishore Chatterjee (1952)
- v) Professor Pranab Kumar Sen (1953)
- vi) Professor Jayanta Kumar Ghosh (1954)
- vii) Professor Shyama Prasad Mukherjee (1956)
- viii) Professor Arijit Chaudhuri (1957)
- ix) Professor Malay Ghosh (1960)
- x) Professor Sujit Kumar Basu (1961)
- xi) Professor Rahul Mukherjee (1972)

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

45. List the teaching methods adopted by the faculty for different programmes.

- (i) Chalk and Talk
- (ii) Presentation with electronic slides.
- (iii) Providing study materials (both in Soft and hard forms) after regular class teaching.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Mid-semester examinations, Assignments, Projects are used to ensure this. The project work is included in their PG Semester 4 Course Curriculum.

Moreover the excellence or expertise of the PG 1st year students in their computing skill is evaluated by individual or small-group wise projects on applications of Statistics using R-packages.

47. Highlight the participation of students and faculty in extension activities.

- Faculty participation in University general responsibilities
- NSS activity for students

48. Give details of “beyond syllabus scholarly activities” of the department.

- Seminar activity
- Short-term projects
- Co-curricular activities
- Students’ governance through students’ union
- games and sports

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. N.A.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Usually our students try to add something new and innovative ideas in their academic project works, both from basic theoretical and applied viewpoints. For instance, they have studied theory of Bayesian estimation on shifted exponential distribution with truncated normal as prior, they have analysed the score data of a batsman through different GLMs and their relative efficiencies among them.

Historical perspective: The Department of Statistics, as a part of Presidency College affiliated to the University of Calcutta, started its journey to teach undergraduate Statistics in 1944 under the able guidance of Professor P.C.Mahalanobis. Later, the teaching faculty was strengthened with a number of outstanding and dedicated teachers, some of whom have achieved tremendous fame in India and abroad. The department has produced high profile statisticians in the field of education and research and many of them have received international recognition and have put India on the Statistical map of the world. Many Presidencians from this department have been successfully handling various challenging jobs in various prestigious national and international corporate sectors and the Government sector as well. After Presidency College achieved the status of University in 2010, the department started two-year post-graduate (PG) semester-based programme along with existing three-year undergraduate (UG) semester-based programme in Statistics. Recently, a team of professors from the University of Malaya, Malaysia visited our department for possible collaborative study and research in future. The department hopes, in the coming years, to strengthen its current offerings and its faculty strength to enable us to offer a world-class PhD program at Presidency.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths : (i) Young faculty members, (ii) Friendly and co-operative working and teaching-learning atmosphere, (iii) Excellent relations between faculty and office-staff members, (iv) Meritorious, co-operative and sincere students, (v) maximum utilization of the teacher-student contact hours.

Weakness : (i) Inadequate number of faculty members with respect to UG & PG teaching loads, (ii) Insufficient number of computers for UG & PG Laboratories, (iii) Inadequate space to conduct multiple classes simultaneously, (iv) non availability of licensed version of softwares like C++ and Minitab which are included in the syllabus. (v) Inadequate infrastructure for initiation of PhD. programme.

Opportunities : (i) Full availability of Internet facility, (ii) Procurement of different costly and rare foreign books for advanced teaching-learning and research, (iii) Accessibility of many e-books and e-journals, (iv) comfort to work in well-established infrastructure with Central Air-Conditioning System, (v) Availability of Secretarial Staff member to assist in various official work, (vi) Financial assistance for pursuing personal research work of the faculty members through FRPDF grant.

Challenges : (i) To maintain as well as to upgrade the academic excellence with present inadequate number of faculty members, (ii) to initiate a full-fledged Ph.D programme with existing scarcity of faculty and space, (iii) to bring sponsorship for projects and research as the department is a newly-born PG department (since 2011), (iv) Upgradation of departmental library and laboratory. (v) Conducting several student enrichment programmes on regular basis.

52. Future plans of the department.

(i) To maintain a high teaching standard

(ii) To provide full computer facility to each student with respect to the availability of PC and the syllabus topics viz. MsExcel, MINITAB and C++. [R-package is already available as an open source.]

(iii) To have full faculty strength and start PhD programme under different reputed funding agencies. Further starting Research Projects funded by appropriate agencies.

Annexures 1

List of Seminars and Conferences Organized in last three years

SI No.	Date/Month	Topic	Source of Funding	Status (Local /State/ national level) (student enrichment programme)
1	6-7 February 2015	National Seminar on Probability and Statistics : Theory and Applications	Presidency University	National
2	07.01.15	Prof. Amal Bhatt (Presi 1979-82)'s Talk	Presidency University	Student enrichment programme
3	16.09.14	Prof. Manas Chatterjee (Presi 1955)'s Talk	Presidency University	Student enrichment programme
4	14.08.2014	Dr.Aloka G Chakravarty's talk on Biostatistics	Presidency University	Student enrichment programme
5	05. 09. 2012	Felicitation of Professors Goon, Gupta and Dasgupta	PresiStat Reunion Fund	Local
6	30. 12. 2013	Advanced Survey Sampling	Presidency University and IAPQR	National
7	02.01.2013	Multivariate Analysis & Its Applications: Dedicated to the Memory of Prof. Anil Kumar Bhattacharyya	Presidency University, Kolkata and IAPQR	International
8	04.01.2013	Different Prospects of Statistics	Presidency University, Kolkata	International
9	11.01.2016	Outreach Programme of CMI	Presidency University, Kolkata	National

Annexure-2

Seminar workshops attended by teachers of the Department in last three years (chronologically)

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National / International)	Role as Resource person Invited Speaker
1	Sri Biswajit Roy, R.K. Das, S. De, A. Biswas, K. Chaitanya	Advanced Survey Sampling	December 31, 2013	IAPQR, CSA and Presidency University, Kolkata	International Seminar	Attended
2	Sri Biswajit Roy, R.K. Das, S. De, A. Biswas, K. Chaitanya	Probability and Statistics: Theory and Applications	February 6-7, 2015	Presidency University, Kolkata	National Seminar	Attended

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National / International)	Role as Resource person Invited Speaker
3	Sri Biswajit Roy, S. De, A. Biswas, K. Chaitanya	Felicitation of Professors Goon, Gupta and Dasgupta	05. 9.2012	PresiStat Reunion Fund	Local	Attended
4	Sri Biswajit Roy, S. De, A. Biswas, K. Chaitanya	Multivariate Analysis & Its Applications: Dedicated to the Memory of Prof. Anil Kumar Bhattacharyya	02.01.2013	Presidency University, Kolkata and IAPQR	International	Attended
5	Sri Biswajit Roy, S. De, A. Biswas, K. Chaitanya	Different Prospects of Statistics	04.01.2013	Presidency University, Kolkata	International	Attended
6	Sri Biswajit Roy, R.K. Das, S. De, A. Biswas, K. Chaitanya	Outreach Programme of CMI	11.01.2016	Presidency University, Kolkata	National	Attended
7	Dr.Arunangshu Biswas	Lectures in Probability and Stochastic Processes (LPS)	December 2011			Paper presented
8	Dr.Arunangshu Biswas	Contemporary Issues in Applied Statistics	February 2012	Indian Statistical Institute, Kolkata		Paper presented
9	Dr.Arunangshu Biswas	Eighth International Triennial Calcutta Symposium	December 2012	Calcutta University and Calcutta Statistical Association	International	Paper presented
10	Dr.Arunangshu Biswas	3rd International Conference on Advanced Data Analysis, Business Analytics and Intelligence	April 2013	IIM Ahmedabad	International	Paper presented
11	Dr.Arunangshu Biswas	Workshop on Inference in Stochastic Process	February 2015	University of Pune	National	Attended
12	Dr.Arunangshu Biswas	Probability and Statistics: Theory and Applications	February 6-7, 2015	Presidency University, Kolkata	National Seminar	Attended
13	Dr.Arunangshu Biswas	Ninth International Triennial Calcutta Symposium	December 2015	Calcutta University and Calcutta Statistical Association	International	Paper presented
14	Dr. Radhakanta Das	Applications of Statistics in Industry, Social & Biomedical Sciences	March 03, 2012	University of Burdwan	National Seminar	Convener

Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National / International)	Role as Resource person Invited Speaker
15	Dr. Radhakanta Das	Young Statistician Meet – An International Conference	December 24-25, 2012	University of Burdwan	International Seminar	Paper Presented
16	Dr. Radhakanta Das	International Triennial Calcutta Symposium on Probability and Statistics	December 27-30, 2012	CSA and Dept of Statistics, University of Calcutta	International Seminar	Paper Presented
17	Dr. Radhakanta Das	Statistical Methods for Bioinformatics	December 12-14, 2013	IISc, Bangalore, ISI and SAMSI, USA	International Workshop	Participated
18	Dr. Radhakanta Das	Advances in Statistics: Techniques and Applications	December 19-20, 2013	CSA and Asutosh College, Kolkata	National Seminar	Attended
19	Dr. Radhakanta Das	Advanced Survey Sampling	December 31, 2013	IAPQR, CSA and Presidency University, Kolkata	International Seminar	Attended
20	Dr. Radhakanta Das	Short Course on Bayesian Statistical Modelling	January 27-31, 2014	DST-CIMS & Dept of Stat, BHU, U.P.	National Workshop	Participated
21	Dr. Radhakanta Das	On Masters course in Big data analytics: A Brainstorming Session	August 07, 2014	BPS HR, Tata Consultancy Services Limited	National Conference	Participated
22	Dr. Radhakanta Das	Probability and Statistics: Theory and Applications	February 6-7, 2015	Presidency University, Kolkata	National Seminar	Convener
23	Dr. Radhakanta Das	Environmental Statistics	March 2-4, 2015	SAMSI, USA and ISI, Kolkata	International Workshop	Participated
24	Dr. Radhakanta Das	Statistics and Related Areas For Equity, Sustainability and Development	November 28-30, 2015	Lucknow University, U.P.	International Seminar	Paper Presented
25	Dr. Saurav De	Applications of Statistics in Industry, Social & Bio-medical Sciences	December 03, 2012	University of Burdwan	National Seminar	Attended
26	Dr. Saurav De	International Triennial Calcutta Symposium on Probability and Statistics	December 27-30, 2012	CSA and Dept of Statistics, University of Calcutta	International Seminar	Attended

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Sl. No.	Name of the Teacher	Title of Seminar	Date	Organized by	Status (National / International)	Role as Resource person Invited Speaker
27	Dr. Saurav De	Advances in Statistics: Techniques and Applications	December 19-20, 2013	CSA and Asutosh College, Kolkata	National Seminar	Attended
28	Dr. Saurav De	Advanced Survey Sampling	December 31, 2013	IAPQR, CSA and Presidency University, Kolkata	International Seminar	Attended
29	Dr. Saurav De	Probability and Statistics: Theory and Applications	February 6-7, 2015	Presidency University, Kolkata	National Seminar	Attended
30	Dr. Saurav De	International Triennial Calcutta Symposium on Probability and Statistics	December 28-31, 2015	CSA and Dept of Statistics, University of Calcutta	International Seminar	Attended
31	Atanu Kumar Ghosh	Reliability Theory, Survival Analysis and Related Topics	January, 2013	SQC & OR Unit, ISI, Kolkata	National Seminar	Attended
32	Atanu Kumar Ghosh	Reliability Theory, Survival Analysis and Related Topics	February 19-21, 2014	SQC & OR Unit, ISI, Kolkata	National Seminar	Attended
33	Atanu Kumar Ghosh	School and Workshop on Classification & Regression Trees	March 10-26, 2014	IMS, NUS, Singapore	International Workshop	Participated
34	Atanu Kumar Ghosh	International Triennial Calcutta Symposium on Probability and Statistics	December 28-31, 2015	CSA and Dept of Statistics, University of Calcutta	International Seminar	Paper presented
35	Y.N.V. Krishna Chaitanya	Advanced Survey Sampling	December 31, 2013	IAPQR, CSA and Presidency University, Kolkata	International Seminar	Attended
36	Y.N.V. Krishna Chaitanya	Probability and Statistics: Theory and Applications	February 6-7, 2015	Presidency University, Kolkata	National Seminar	Attended

Annexure 3

List of Publications in Journals (peer-reviewed only), Books, Monographs, 2013

1. Sahu, S., **Roy, B** and Moitra, S. (2013) : Assessment of the lung function status of the goldsmiths working in an unorganized sector of India, **Lung India**, v.**30**, Issue 1, pp. 33 – 37
2. Sahu, S., Moitra, S., Maity, S., Pandit, A. K. and **Roy, B** (2013) : A Comparative Ergonomics Postural Assessment of Potters and Sculptors in the Unorganized Sector in West Bengal, India, **International Journal of Occupational Safety and Ergonomics (JOSE)**, v. **19**, No. 3, pp.455–462
3. Bandyopadhyay, U. and **De, S.** (2013) : Multi-Treatment Covariate-Adjusted Adaptive Design Under Informative Censoring, **Statistics**, Vol **47**, Issue 6, pp. 1285-1304
4. **Das, K.** (2013) : Statistical Challenges in the Analysis of Dynamic Traits : Implications for Pharmacogenomic Clinics, **Advanced Drug Delivery Reviews**, Vol 65, Issue 7, 973 - 979; IF : 13.5
5. **Das, K.** , Li, J. , Fu, G., Li, R. and Wu, R. (2013) : Dynamic Semiparametric Bayesian Model for Genetic Mapping, **Statistics in Medicine**, Vol 32, Issue 3, 509 - 523; IF : 2.04
6. **Das, K.** , Li, J. ,Sengupta, S. and Wu, R. (2013) : A Semiparametric Bayesian Model for Bivariate Sparse Longitudinal Data, **Statistics in Medicine**, Vol 32, Issue22, 3899 - 3910; IF : 2.04
7. **Das, K.** and Daniels, M. (2013) : A Semiparametric Approach to Simultaneous Covariate Estimation for Bivariate Sparse Longitudinal Data, **Biometrics**; IF : 1.41
8. Basak, G. and **Biswas, A.** : Process Convergence of Self Normalized sums when the random variables come from the domain of attraction of stable distributions; **Proceedings of the Indian Academy of Sciences** (Math. Sci.), **123**, 1, pp. 85 – 100; 2015
9. **Ghosh, A. K.** and Chakraborty, A. (2015): Use of EM Algorithm for data reduction under sparsity assumption, **Computational Statistics**, (communicated).
10. Nath, D.C., Verma, **V.** and **Das, R.** (2015): Representativeness of Ranked Set sampling in Estimation of Fertility Measures, **Computational Statistics and Data Analysis** (communicated).
11. **Das, R.**, Verma, **V.** and Nath, D.C.(2015): A Bayesian Approach to Estimate Population Proportion under Ranked Set Sampling. **Journal of Statistical Planning and Inference.** (Communicated)
12. **Biswas, A.** (2015) :Investigation on the trace elemental profile of sewage workers in Kolkata, an Indian megacity, **Journal of Public Health Research**; volume **4**, p. 473
13. **Biswas, A.** (2015) : An attempt to search the health status of garage workers - A neglected part in India, **International Journal of Advanced Research**, Volume 3, Issue 7, 1466-1471
14. Deemat Mathew and **Krishna Chaitanya** (2015) : Proportional reversed hazards model for discrete data, **Proceedings of the 60th ISI World Statistics Congress, 26-31 July 2015, Rio de Janeiro, Brazil(p.1003-1008), Published by the International Statistical Institute, The Hague, The Netherlands, December 2015.**

2016

15. Bandyopadhyay, U. and **Das, R.** (2016): A Comparison Between Two Treatments in a Clinical Trial with an Ethical Allocation Design. **Journal of Statistical Methodology** (To be communicated)
16. **Das, R.** (2016): A Distribution-free Test for a Two-Sample Location Problem in a Two-stage Ethical Allocation Design. **Journal of Nonparametric Statistics.** (To be communicated)

Annexure 4

Membership

1. Biswajit Roy is a Life member of
 - i) Indian Statistical Institute; ii) Calcutta Statistical Association iii) The Asiatic Society.
2. Saurav De is a Life member of
 - i) Calcutta Statistical Association
3. Radhakanta Das is a life member of
 - i) Calcutta Statistical Association ; ii) Bayesian Statistical Society ; iii) Indian Society for Probability and Statistics





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