



UTKAL UNIVERSITY

SELF STUDY REPORT

Faculty of Science

for submission to
National Assessment & Accreditation Council

VOLUME - II, Part - 2



UTKAL UNIVERSITY

BHUBANESWAR

VISION:

To be a centre of excellence in higher education with an innovative focus on teaching, learning, research, consultancy and extension activities so as to help build a creative, enlightened and productive civil society.

MISSION:

- To provide the students with knowledge, skill, values and sensitivity necessary for a good citizen.
- To generate and disseminate knowledge through interdisciplinary research and creative inquiry for creating a meaningful and sustainable society.
- To equip the students with problem solving, leadership and teamwork skills and to inculcate in them a sense of commitment to quality, ethical behaviour and respect for others.
- To provide a platform for free flow of ideas and to create a climate which fosters discovery, creativity and professional development.
- To ensure academic excellence in this dynamic knowledge economy by exposing the students to new ideas, new ways of understanding, new ways of knowing in their intellectual and spiritual odyssey.



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	Abbreviation	



Post Graduate Department of BIO-TECHNOLOGY



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department: P.G. DEPARTMENT OF BIOTECHNOLOGY
2. Year of establishment: 2002
3. Is the Department part of a School/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D. Sc., D.Litt., etc.):
 P G : M.Sc. Biotechnology – 02 years
 Ph. D. : Ph.D. in Biotechnology with Pre- Ph.D. Course work
5. Interdisciplinary programmes and Departments involved:
 Zoology, Botany, Life Science, Chemistry, Pharmaceutical Biotechnology, Veterinary Science and Bioinformatics
6. Courses in collaboration with other universities, industries, foreign institutions, etc. :
 Pre- Ph.D. Course work in collaboration with
 - Institute of Life Science, Bhubaneswar
 - RMRC, Bhubaneswar
7. Details of programmes discontinued, if any, with reasons -NA
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System-
 M.Sc.: Semester and Choice Based Credit System
 Ph.D.: Course work- Semester and one elective paper
9. Participation of the Department in the courses offered by other Departments- Yes
 - P.G. Department of Anthropology
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

Faculty	Sanctioned	Filled	Actual (including CAS & MPS)
Professors	01	01	01
Associate Professors/Reader	02	01	01
Asst. Professors/Lecturer	03	02	02
Others		01- U.G.C., Emeritus Professor (2013-2015) 01- Women Scientist, DST, Govt. of India, 2012-2015) 01- DBT, Ramalingaswamy Fellow (2013-2014) 01- Lecturer Under UGC-FRP, Selected & opted for P.G. Department of Biotechnology	02

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance (2010-2015)

Name	Qualification	Designation	Specialization	No. of Years of Experience (Yrs) Teaching : T Research : R	No. of Ph.D./ M. Phil. Students guided for the last 4 years
Prof. J. Dandapat	M. Phil., Ph.D.	Professor and Head of the Department	Cell and Molecular Biology & Immunology	T=13 R=21	Ph.D. = 03 (awarded) 01 (submitted) 04 (regd.) M. Phil.=04
Prof. GBN Chainy	M.Sc., Ph.D.	Professor (Retired in 2010). UGC-Emeritus Professor (2013-2015)	Biochemistry & Molecular Biology	T=33 R=35	Ph.D.=17 (awarded) 03 (regd.) M. Phil.=22
Dr. Sabuj Sahoo	M. Tech., Ph.D.	Reader	Pharmaceutical Biotech/ Bioprocess Technology	T=14 R=12	Ph.D.=02 M. Phil.=01
Dr. Jyotsnarani Pradhan	M.Sc., Ph.D.	Lecturer	Molecular Biology & Tissue Engineering	T=0.8 R=06	-
Dr. Sanatan Majhi	M. V. Sc.	Lecturer	Microbiology and Immuno-technology	T=0.8 R=05	-
Dr. P. Sen	M.Sc., Ph.D.	Asst. Professors/ Lecturer Consolidated Scale (2010-2012)	Biophysics & Biochemistry	T=2 R=6	-

12. List of senior Visiting Fellows, Adjunct faculty, Emeritus professors

Sl. No.	Name of Guest Faculty/ Adjunct faculty/Emeritus Professors	Affiliation
1	Prof. GBN Chainy	UGC, Emeritus Professor (2013-2015)
2	Dr. Anita Roy	Women Scientist, DST, Govt. of India (2012-2015)

3	Dr. Priyaranjan Debta	DBT, Ramalinga Swamy Fellow (2013-2014)
4	Prof. SP Adhikary	Viswa Bharti University, Shantiniketan
5	Prof. G. Mishra	Professor (Dept. of Statistics, Utkal University)
6	Prof. Shantilata Sahoo	Retd. Professor (Dept. of Botany)
7	Prof. P. K. Chand	Professor (Dept. of Botany, Utkal University)
8	Prof. P. K. Mohanty	Retd. Professor (Dept. of Chemistry, Utkal University)
9	Dr. SK Badamali	Dept. of Chemistry, Utkal University
10	Dr CC Rath	North Odisha University, Baripada
11	Dr. RC Roy	Central Tuber Crop Research Institute, Bhubaneswar
12	Dr Sunil Kumar	Institute of Life Science, Bhubaneswar

13. Percentage of classes taken by temporary faculty – programme-wise information
- | | | | | |
|------------------------|---|-----------|---|-----|
| M.Sc. Biotechnology | = | 2010-2014 | : | 40% |
| | | 2015 | : | 10% |
| Ph.D. in Biotechnology | = | | | 25% |
14. Programme-wise Student Teacher Ratio
- | | |
|------------------------|------|
| M.Sc. Biotechnology | -9:1 |
| Ph.D. in Biotechnology | -2:1 |
15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff	Sanctioned	Filled	Actual
Administrative staff	-	Total : 02	02
		Junior Asst. (Regular) : 01	
		Peon (Regular) : 01	
Academic support staff (technical)	-	Office-cum-Computer Asst. (Consolidated) : 01	03
		Animal Care Taker (Daily wage basis) : 01	
		Lab Attendant (Daily wage basis) : 01	

16. Research thrust areas as recognized by major funding agencies

Sl. No.	Thrust Areas	Funding Agency
1	Redox regulation and Oxidative Stress	<ul style="list-style-type: none"> • DST-PURSE, Govt. of India • BRNS, DAE, Govt. of India • DST, Govt. of India
2	Therapeutic/ Nutritional Interventions in Oxidative Stress, Cancer and Endocrine Disorders.	<ul style="list-style-type: none"> • DBT, Govt. of India • DST, Govt. of India • DST-PURSE, Govt. of India • DST-Govt. of Odisha

3	Bioprocess Technology & Drug Development	<ul style="list-style-type: none"> • DST-PURSE, Govt. of India • DBT, Govt. of India. • AYUSH, Govt. of India
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17. Number of faculty with ongoing projects from

- National
- International funding agencies
- Total grants received.

Give the names of the funding agencies, project title and grants received project-wise.

Name of the Funding Agency	Year	Nature of Funding	Amount Received in Rs.	Coordinator/ P.I.	Project Title
DBT, Govt. of India	2009-2014	Infrastructure Development & Manpower	99,90,819/-	Head of the Department/ Coordinator	
DST-PURSE, Govt. of India	2011-2015	Infrastructure Development & Manpower	72,54,016/-	Head of the Department	
UGC, New Delhi	2009-2015	Infrastructure Development	25,95,000/-	Head of the Department	
DST, Govt. of Odisha	2007-2010	Research & Development	5,73,000/-	Prof. S. P. Adhikary, P.I.	Screening, isolation and characterization commercially important antioxidant compounds and marketable agar from seaweeds of Chilika lake.
BRNS, DAE, Govt. of India	2011-2014	Research & Development	31,91,150/-	Dr. J. Dandapat, P.I.	Studies on burrowing animal (rats) in and around tailing ponds of Jaduguda uranium mines.
DST, Govt. of India	2011-2014	Research & Development	20,00,000/-	Dr. J. Dandapat, P.I.	Modulation of antioxidant system of tasar silkworm, <i>Antheraea mylitta</i> for improved production of silk fibre. Funding Agency: DST, Govt. of India
DST, Govt. of Odisha	2011-2014	Research & Development	5,50,800/-	Dr. J. Dandapat, P.I.	Technology development for rearing of Tasar Silk worm on Semi synthetic diet: role of antioxidants and micro-nutrients for improved silk production. Funding Agency: DST, Govt. of Odisha
DST, Govt. of India	2012-2015	Research & Development	17,90,000/-	Dr. (Mrs) Anita Roy, P.I. (Women	4HNE mediated signaling in hypothyroidism induced male fertility: Role of GST and modulation

				Scientist)	by curcumin.
DBT, Govt. of India	2013-2018	Research & Development	19,90,000/-	Dr. P. R. Debata, P.I. (Ramalinga swami Fellow)	To characterize a novel Topical cream base therapy against cervical cancer and targeting cervical cancer by by modulating the tumor microenvironment.

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration:

Sl. No.	Name of the project/Area of Research	Collaborative Institute	Associated Grants
1.	Redox response & Viral Infection	JNU, New Delhi School of Biotechnology, School of life science	-
2.	Gene polymorphisim in human population	JNU, New Delhi, School of life science	-
3.	Oxidative stress, Insect Biochemistry & Cancer Biology	North Orissa University, Baripada Institute of Physics, Bhubaneswar	-
4.	Biophysics & Nano technology	Institute of Physics, Bhubaneswar	-
5.	AYUSH, Govt. of India (Hypertension & Oxidative stress)	ACR, Govt. Homeopathic Medical College, Bhubaneswar,	Rs. 21,000,00/-
6.	AYUSH, Govt. of India (Endocrine disorder, Oxidative stress & Homeopathic Interventions)	Central Council of Research in Homeopathy, New Delhi	Rs. 48,25,000/- (Concept Note of the proposal has been approved by the screening committee)

b) International collaboration: NA

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

Name of the Funding Agency	Year	Nature of Funding	Total grants received	Coordinator/P.I.
DBT, Govt. of India	2009-2014	Infrastructure Development & Manpower	99,90,819/-	Prof. GBN Chainy (2009-2010) Dr. J. Dandapat (2010-2014) Head of the Department/ Coordinator
DST-PURSE,	2011-	Infrastructure	72,54,016/-	Dr. J. Dandapat

Govt. of India	2014	Development & Manpower		Head of the Department
UGC, New Delhi	2009-2015	Infrastructure Development	25,95,000/-	Dr. J. Dandapat Head of the Department

20. Research facility / centre with

P.G. Department of Biotechnology offers M. Sc. course in Biotechnology which is supported by the Department of Biotechnology, Govt. of India, New Delhi, under Human Resource Development Programme for advanced teaching and research in Biotechnology. The Department is equipped with the state of the art infrastructure for teaching and research in Biotechnology. The M.Sc. Course curriculum has been designed to impart theoretical and practical training to the students in Cell Biology and Genetics, Genetic Engineering, Biochemistry, Microbiology, Biotechniques, Molecular Biology, Enzyme and Bioprocess Technology, Immunology, Environmental Biotechnology, Biostatistics and Bioinformatics. Recently, the Department has also adapted choice based curriculum for M.Sc. students based on DBT model syllabus and UGC guidelines.

Departmental Research Facilities:

The Department is having well equipped laboratories with number of sophisticated equipments to carry out practicals for M.Sc. students. Besides the general M.Sc. laboratories to carry out routine practicals. The Department has several research laboratories including Molecular Biology Laboratory, Animal cell culture facilities, working cold room, Instrumentation facilities, etc., where Doctoral/Postdoctoral students, Scientists and Faculty members are actively engaged in cutting edge research in various fields of Biotechnology.

Instruments available:

- PCR machine
- Real Time PCR machine
- Gel documentation system
- Vertical and horizontal electrophoresis system
- Electrophoresis and Blotting system
- Electrophoresis power supply
- Inverted microscope
- Fluorescence microscope with digital imaging system
- HPLC (High Performance Liquid Chromatography)
- ELISA reader
- UV-Vis Spectrophotometer
- Spectrofluorimeter
- Hansatech oxygraph
- Microplate Spectrophotometer
- Digital Balance
- -20°C, -50°C & -80°C Deep freezer
- Laminar air flow- horizontal system

- CO₂ Incubator
 - Phase II Bio-safety cabinet
 - High Speed Cooling Centrifuge
 - Millipore and Milli Q water system
 - NIBP Tail-cuff sphygmomanometer
 - 25kva Power backup system
 - Biofermenter
 - Orbital shaker
 - Sonicator
- State recognition
04 students are selected through entrance test conducted by Utkal University, Bhubaneswar from the Academic Session 2014-2015 and all selected students receive a studentship @ Rs 2000/-per month from DBT, Govt. of Odisha.
 - National recognition
The Department has been recognized as one among the thirty three premier Institutes, to run M.Sc. course in Biotechnology, under Department of Biotechnology, Govt. of India, New Delhi, Human Resource Development Programme to train the students from All over India, selected through JNU Combined Entrance Examinations.
 - International recognition- NA
21. Special research laboratories sponsored by / created by industry or corporate bodies: NA
22. Publications: Total A+B+C= 60
- a) Number of papers published in peer reviewed journals (national / international): 55
Please see Annexure-I
 - b) Monographs: NA
 - c) Chapters in Books: 04
 - d) Edited/ Text Books: 01
 - e) Conference Proceedings-NA

Books with ISBN with details of publishers

- 1 “Hepatoprotective, antioxidant and antiinfective screening of some indigenous medicinal plants of odisha” 2015, ISBN: 978-81-89626-68-6, Mayur Publications, Bhubaneswar, Odisha, India by Sabuj Sahoo.

Chapter in an edited book with ISBN with details of publishers

- 2 Verlekar, X.N., Jena, K. and Chainy, G.B.N. Antioxidant defence parameters of *Perna viridis* can be suitable biomarker for marine environment risk management. In Industrial and Environmental Biotechnology. INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY edited: Prof. Krishna Pramanik and Dr. Jayanta Kumar Patra, Department of Biotechnology & Medical Engineering, NIT, Rourkela. Studium Press LLC, USA. 2013 (Accepted)

- 3 Chainy G.B.N. Management of hepatic antioxidant genes by curcumin and vitamin E in hypo- and hyperthyroid rats. In Contemporary Topics in Life Sciences ed by. P.P Mathur. Published by Narendra Publishing House, New Delhi, 2014. pp 75-94.
- 4 Title of Book: Written a Chapter “Microbial Enzymes: Prospects and Challenges” in an Edited Book “Microbiology Applications”, ISBN: 978-81-905771-3-7
 Publisher: M/S Har Krishan Bhalla & Sons,
 Place: Dehradun- 248007, Uttarakhand, India
 Year: 2013, page; 211-233..
- 5 Written a Chapter “Ancient History of Medicine: An Overview” in an Edited Book “Indian Culture Science and Technology Through Ages” ISBN: 81-89726-57-7.
 Publisher : M/S Gyanjuga Publication
 Place : Bhubaneswar-15, Odisha, India
 Year : 2011, page; 259-273.
 Editor : Prof. Amal Kumar Mishra, PG Dept. of History.

Popular Articles: 02

1. Chainy, G.B.N. (2012) Immune System of the Body. Science Horizon 4th issue, pp 27-31 April, 2012.
2. Chainy, G.B.N. (2014) Hormones (in Oriya), Bigyan Diganta, 4th issue April 2014.
- 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

Total citations since	2010 -2120
Impact Factor – range -	0.678-3.53
Average	1.9
h-index	47 (Approx)
23. Details of patents and income generated : NA
24. Areas of consultancy and income generated : NA
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad:
 Prof. J. Dandapat has participated in International workshop on “oxidative stress reduction, Redox Homeostasis and antioxidants” and presented a paper in the International conference organized in the Institute of Pasteur, Paris in 2015.
26. Faculty serving in
 - a) National committees b) International committees c) Editorial Boards d) any other (please specify)
 - a) National committees:-
 Prof. J. Dandapat acted as a member in various National committees
 - Member- Examination committee of Combined Entrance Examination conducted by JNU, for DBT, Govt. of India.

- Member of National Planning Committee- DST- SERB, School of Bio Resource Conservation & Management propped by Vidyasagar University.
- Member-Academic Committee, Institute of Life Sciences, Bhubaneswar (2010-2011)
- Member-Biosafety Committee Central Rice Research Institute, Cuttack as DBT-Govt. of India nominee
- Member- Advisory committee DBT- Govt. of India, -Star College Programme, N.L. Khan College, Midnapur, West Bengal

Prof. GBN Chainy

- Member of Expert Advisory Committee of Commission for Scientific and Technical Terminology, Ministry of Human Resource Development Govt. of India on Glossary of Biotechnology.

b) State committees

Prof. J. Dandapat

- Member-Board of Studies in Biotechnology, Ravenshaw University (2010-2011)
- Member-Board of Studies in Biotechnology, North Orissa University, Baripada (Since 2011)
- Member-Task force committee on Biotechnology, DST, Govt. of Odisha
- Member-Committee for setting up of Biotechnology Incubation Center in Konark Knowledge Park, DST, Govt. of Orissa

Prof. GBN Chainy

- Chairperson, State Level Appraisal Committee, Orissa 2009-2012
- Member, State Biodiversity Board, Orissa 2009-2013
- Member, State Wild-Life Board, 2009-2013
- Member of Expert Advisory Committee of Commission for Scientific and Technical Terminology, Ministry of Human Resource Development Govt. of India on Glossary of Biotechnology

b) International committees : NA

c) Editorial Boards

Dr. S. Sahoo

- Editorial Board Member of Journal of Advanced Microbiology, Har Krishan Bhalla & Sons in association with Taylor and Francis group,
- Pharmaceutical and Biological Evaluations-Associate Editor (E ISSN: 2394-0859).
- Reviewers

Prof. GBN Chainy & Prof. J. Dandapat are reviewers of peer reviewed journals from reputed publication houses viz., Elsevier, Springer, Wiley, Taylor and Francis, NISCAIR, CSIR

- Dr S.Sahoo is a reviewer of reputed journals of publication houses viz., Elsevier, Springer, Taylor and Francis.

- d) any other (please specify):
Expert member and Reviewer of Research Proposals of National/ State Govt. Funding Agencies.
27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).
Workshop/ Symposium/Refresher Courses Conducted/ Attended
- 1 Prof. GBN Chainy was the Coordinator Refresher Course in Biotechnology, Utkal University, 2010.
 - 2 Prof. J. Dandapat was the Coordinator Refresher course in Biotechnology for College and University Teachers 2011
 - 3 Prof. J. Dandapat was the convener and Organized National Symposium on “Emerging trends in Biotechnology: Present scenario and future dimensions” on 29th and 30th March, 2014
 - 4 Dr. S. Sahoo was the Convener of UGC-Sponsored Skill Based Workshop in Biotechnology for college teachers’ held on 19st-20nd, November, 2015.
- Attended
- 5 Dr. J. Dandapat, has participated in an Orientation Course on Values of Education from 18th November, 2010 to 14th November, 2010 organized by Academic Staff College of Utkal University, Bhubaneswar, Orissa.
 - 6 Dr. Sabuj Sahoo has participated in Refresher course (Pharmacy) on “Recent Advances in Pharmaceutical Sciences” conducted by U.G.C., Academic Staff College, Utkal University, Bhubaneswar, from 10.08.11 to 30.08.11.
 - 7 Dr. Sabuj Sahoo has attended Teachers Training Programme organized by NMEICT (National Mission on Education through Information and Communication Technology) Project of MHRD through Microsoft at Utkal University from 11th-20 October, 2012.
 - 8 Dr. Jyotsnarani Pradhan, has attended one week Short term course for one week on “Teaching Skill Development” conducted by U.G.C., Academic Staff College, Utkal University, Bhubaneswar, from 20th-25th March 2015.
 - 9 Dr. Sanatan Majhi, has attended one week Short term course for one week on “Teaching Skill Development” conducted by U.G.C., Academic Staff College, Utkal University, Bhubaneswar, from 20th-25th March 2015.
28. Student projects
Percentage of students who have done in-house projects including inter-Departmental projects : 90
- Percentage of students doing projects in collaboration with other universities
 - industry / institute : 10%
29. Awards / recognitions received at the national and international level by
- Faculty: Faculty of the Department have presented the research findings of ongoing Research in various conferences, seminars, symposium and workshop of National & International Repute and won certificates and prizes as recognition.

Recognitions received at the National and International Invited talks: 32

Sl. No.	Name of the faculty	Awards / Recognitions received
1	Prof. J. Dandapat	<p>1 PTU induced Neonatal Hypothyroidism Modulates Methylation Pattern of Catalase Promoter in Rat Liver. Symposium Lecture in the International Symposium on Genetic Analysis Translational and Developmental and Annual Meeting of Society for Biotechnologists (India). Organized by Department of Zoology, The University Of Burdwan on November 21st to 23rd, 2014.</p> <p>2 Exciting World of Biology. Invited talk in the inspire programme cum Residential Science camp for School and College students. Organised by Vidyasagar University and sponsored by Dept of Science and Technology, Govt. Of India and Govt. Of West Bengal on June 26, 2014.</p> <p>3 Oxidative challenges and antioxidant protection in aquatic organisms: from biomarkers to health management. Invited lecture in the International Symposium on Problem and prospects of coastal aquaculture and application of biotechnological tool for the rural development. Organised by Vidhasagar University, sponsored by DBT, Govt of India,UGC New Delhi on March 1-3, 2013.</p> <p>4 DNA methylation and histone modification: Impact on Epigenetics. Delivered lecture in the National workshop on Hands on DNA technologies. Nagarjuna Post graduate College of Science, Raipur sponsored by UGC, New Delhi on January 8-11, 2013.</p> <p>5 Biofertilizers. Invited Talk in the National Seminar on sustainable development through the use of Biofertilizers. AUL College, sponsored by UGC, New Delhi on January 5-6, 2013.</p> <p>6 Organic Farming. Invited talk in the State level seminar on Biotechnology and Organic Farming. Dept of Botany, Balikuda College, Jagatsinghpur sponsored by UGC, New Delhi on March 4-5, 2012.</p> <p>7 Body's Battle. Delivered lecture in the Science Seminar. Gopabandhu Science College, Athagarh on February 8, 2012.</p> <p>8 Ameliorative Effect of Curcumin on the expression of Superoxide dismutase and level of Lipid Peroxidation in cerebral cortex of hypo and hyperthyroid rats. Delivered talk in the International conference on Biotechnology Advances: OMICS, Approaches and way forward. SOA University, Bhubaneswar on December 20-22, 2012.</p>

		<p>9 Defence system of the Body. Delivered lecture in the Seminar organized by Science Society. Seemanta Mahavidyalaya, Jharpokhria on February 19, 2011.</p> <p>10 Insect Diapause: Can hydrogen peroxide be a potent regulator. Invited lecture in the Regional Biochemical Symposium. Organised by Society of Biological chemistry, India and NISER, Bhubaneswar on September 3, 2011.</p> <p>11 Invited lecture in the International Level Seminar on Problems and Prospects of Coastal Aquaculture and Application of Biotechnological Tools For Rural Development organized by Department of Aquaculture Management & Technology, Vidyasagar University, Midnapore, West Bengal, India from 1st – 3rd March, 2013.</p> <p>12 Invited talk in National workshop on Hands on DNA Technologies organized in Department of Botany, Govt. Nagarjuna Post-graduate College of science, Raipur sponsored by University Grant Commission from 8th-11th January, 2013.</p> <p>13 Invited talk in National seminar on Sustainable development though the use of bio-fertilizer organized in Department of Botany, Aul College, Aul sponsored by University Grant Commission from 5th& 6th January, 2013.</p> <p>14 Invited talk in International Conference on Biotechnology Advances: Omics Approaches and Way Forward (ICBA-2012) on Ameliorative effect of Curcumin on the Expression of Hyperthyroid rats organized by Centre of Biotechnology, Siksha 'O' Anusandhan University, Bhubaneswar from December 20-22, 2012.</p> <p>15 Invited talk in National seminar on Biotechnology & Organic farming organized in Department of Botany, Balikuda College, Jagatsinghpur sponsored by University Grant Commission from 4th& 5th March, 2012.</p> <p>16 Invited talk in Regional symposium in biological chemistry 2011 organized by NISER, Bhubaneswar on 03.09.2011.</p>
2	Prof. GBN Chainy	<p>17 Genome. Invited Lecture delivered in DST INSPIRE Program, BITS MISRA, Ranchi. January 31, 2010.</p> <p>18 Testicular Antioxidant Defence System: Invited lecture delivered in International Symposium on current trends in Endocrine & Reproductive Health and 29th Annual meeting of the Society for RBCE, held in Mysore University, Mysore, Karnataka., Feb., 10-12, 2011.</p> <p>19 Free Radicals in Biology and Medicine. Lecture in Refresher course organized by Department of Zoology,</p>

		<p>BHU 28th February, 2011.</p> <p>20 Environment and Stress. Lecture delivered in Current Issues in Environment and Science Program. Organized by Orissa Environment Society, Bhubaneswar on November 4, 2012.</p> <p>21 Genes and Genome. Lecture delivered in DST INSPIRE program, Govt. of India, held in Ravenshaw University, Nov. 18, 2012.</p> <p>22 Human Brain. Guest Lecture delivered in Annual Seminar Function of Department of Zoology, B.J.B. College, Bhubaneswar, March 19, 2013.</p> <p>23 Biotechniques. Key note address to participants on workshop on Biotechniques and Instrumentation, organized by Botany Department, Khallikote College, Berhampur. March 23 2013.</p> <p>24 Recombinant DNA Technology. Lecture delivered to participants +2 teachers in workshop organized by D.A.V. School, Chandrasekharpur, Bhubaneswar on 4th May 2013.</p> <p>25 Transgenic animals and plants. Lecture delivered to participants +2 teachers in workshop organized by D.A.V. School, Chandrasekharpur, Bhubaneswar on 6th May 2013.</p> <p>26 RNAi. Lecture delivered to participants +2 teachers in workshop organized by D.A.V. School, Chandrasekharpur, Bhubaneswar on 9th May 2013.</p> <p>27 Enzymes: Lecture delivered in Refresher Course in Life Sciences, Sambalpur University, Burla. August 16, 2013.</p> <p>28 Genome. Lecture delivered in Refresher Course in Life Sciences, Sambalpur University, Burla. August 17, 2013.</p> <p>29 Antioxidant defences AND Fish Health. Lecture delivered in Winter School on Advances in Molecular and Serological Tools in Fish Disease Diagnosis in CIFA, Bhubaneswar, November 18, 2013.</p> <p>30 Modulation of methylation pattern of rat catalase gene by thyroid hormone(s) in Current Trends in Life Sciences Research and Challenge ahead: National Seminar organized by School of Life Sciences, Sambalpur University, Sambalpur, 28th Feb., 2014 to 2nd April, 2014.</p>
3	Dr. S. Sahoo	<p>31 “Role of Bioreactors In Plant Tissue Culture” Delivered a talk entitled on 3rd August, 2010, in Gayatri College of Pharmaceutical Sciences, Sambalpur under BPOT.</p>

Doctoral / Post-Doctoral fellows: 02

1. Mr. Abinash Dutta, Research Scholar, P.G. Department of Biotechnology, Utkal University won the Best Paper Presentation Award in the National Symposium on Recent Advances in Beneficial Insects organized by Society for Advancement of Natural Resins and Gums (SANRAG) and Indian Institute of Natural Resins and Gums, Ranchi during November 27-29, 2013.
2. Mr. Bamdeb Patra, who was working as Research Scholar in the P.G. Department of Biotechnology, Utkal University was selected and participated in Indo-US Cytometry workshop organised by Institute of Life Sciences, Bhubaneswar.

Students:

1. Students passing out from the Department joined various National/ International Institutes (IITs/IISc/ICGEB/NII/CDFD/JNU/IMTECH/NCCS/CCMB) Universities for higher studies & Research.
2. Students received National recognition through
 - DST-INSPIRE FELLOWSHIP
 - UGC Rank holder Scholarship
 - UGC-CSIR NET, DBT- JRF/ ICMR- JRF / GATE / JNU- Ph.D. / BCIL
3. In last five years the toppers of M.Sc. Biotechnology course were from the university Department and were awarded with gold medals and certificates as recognition.
30. Seminars/ Conferences/Workshops organized and the source of funding (National /International) with details of outstanding participants, if any. 04

Organized Seminars/ Conferences/Workshops:

Sl. No	National/ International	Funding Agency
1	Refresher Course in Biotechnology, Utkal University, 2010.	UGC, New Delhi.
2	Refresher course in Biotechnology for College and University Teachers 2011	UGC, New Delhi.
3	National Symposium on “Emerging trends in Biotechnology: Present scenario, and future dimensions” on 29 th and 30 th March, 2014	DST-PURSE & UGC, New Delhi.
4	UGC-Sponsored Skill Development Workshop for College Teachers on 19 st -20 th , November, 2015.	UGC, New Delhi.

List of outstanding participants/ Resource Persons in National Symposium

Sl. No.	Outstanding participants/ Resource Persons	Affiliation	Topics
1	Dr. T. S Rao	Sr. Advisor, DBT, Govt. of India.	Key Note Speaker

2	Prof . R. Nayak	Retd. Prof. IISC., Bangalore	Chief Guest
3	Prof U. B. Mohapatra	Director, DBT, Govt. of Odisha.	Valedictory Address
4	Prof. B. C. Tripathy	Vice Chancellor, Ravenshaw University, Cuttack	Improving photosynthesis efficiency of plant: A transgenic approach.
5	Prof. T. Mohapatra	Director, CRRI, Cuttack	Genomics for genetic improvement of crops.
6	Prof. B. B. Panda	Berhampur University, Berhampur	Hormesis and plant adaptation to genotoxic 7stress
7	Dr. K. Panigrahi	NISER, Bhubaneswar	Far-red and blue light mediated phosphorylation of CONSTANS is an essential step that shapes the photoperiodic flowering in Arabidopsis.
8	Prof. Santosh Kar	KIIT, Bhubaneswar	Development of knowledge based therapeutic intervention for tuberculosis and malaria
9	Dr. Samir Patra NIT	NIIT, Rourkela	Epigenetic choreography of stem cells and the role of DNA demethylation in development
10	Dr. N. Mandal	Bose Institute, Kolkata	Present scenario of medical biotechnology in India: Importance of medicinal plants to control iron-overload-induced hepatotoxicity and cancer
11	Dr. M. R. Ranjit	RMRC, Bhubaneswar	Pathogenesis of cerebral malaria: Our obestvations
12	Dr. S. Chattopadhaya	NISER, Bhubaneswar	T cell response associated to “sensing” and “sensation” receptors
13	Prof. B. Ravindran	Director, ILS, Bhubaneswar	An anti-inflammatory nematode carbohydrate moiety inhibits endotoxemia.
14	Dr. C. Goswami	NISER, Bhubaneswar	Implications of TRPV ion channels in diseases and health

15	Dr. J. Sunder Roy	CIFA, Bhubaneswar	Aromatase in fish
16	Dr. P. Aich	NISER, Bhubaneswar	How do we approach biology?
17	Prof. Amulya Panda	NII, New Delhi.	Polymeric nanotechnology for vaccine development.
18	Dr. M. Suar	KIIT, Bhubaneswar	Technology translation for sustainable science
19	Dr. Luna Samanta	Ravenshaw University, Cuttack	Male hormonal contraceptives: The future of male contraception?
20	Dr. H. K. Burman	CIFA, Bhubaneswar	Emerging trends and future prospects in fish spermatogonial stem cell research
21	Dr. Soumen Chakarborty	ILS, Bhubaneswar	BCR-ABL mediated repression of miR-223 results in the activation of MEF2C in chronic myeloid leukemia
22	Prof. D. Chattopadhyaya	Pro-VC, Calcutta University	Metagenomics-A tool for augmentation of bioremediation technologies: Studies conducted on a crude oil contaminated soil from North-East India
23	Dr. Sandip Mishra	ILS, Bhubaneswar	MICoA a novel coactivator of estrogen receptor α in breast cancer cell lines
24	Dr. P. Singru	NISER, Bhubaneswar	Neural circuitry and neuromodulators regulating LH cells and reproduction in teleost [†]
25	Prof. S. P. Adhikari	Visva-Bharati, Institute of Science, West Bengal.	Structural changes and adaptation strategies of cyanobacteria in biological crusts and their utilization in biotechnology
26	Dr. N. Acharya	ILS, Bhubaneswar	DNA polymerase processivity

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

- As per UGC guidelines and Department has Animal Ethics Committee CPCSEA, vided Regd. No.: 192/CPCSEA, 22-05-2000 for research.
- Toxicity studies are done as per OECD Guidelines
- Analytical studies are carried as per ICH Guidelines

32. Students Profile, programme-wise:

Name of the Programme	Application Received		Selected		Pass Percentage	
			Male	Female	Male	Female
Post Graduate						
2009-10	Through JNU entrance		4	3	100	100
2010-11	Through JNU entrance		5	0	100	100
2011-12	Through JNU entrance		1	6	100	100
2012-13	through JNU entrance		3	5	100	100
2013-14	through JNU entrance		2	3	100	100
2014-Continuing 3 rd Semester	Through JNU	University Entrance , Total applicants - 85	1	8	100	100
2015-Continuing 1 st Semester	Through JNU	University Entrance , Total applicants - 190	2	6	-	-
Ph.D.						
2010-2015	(2014-15)- 24 applicants		5	2	-	-
		7 (Pre-Ph.D. Course work) 08 (Awarded)				

33. Diversity of Students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from the university outside the State	% of students from other countries
2009-10	0	0	100	0
2010-11	0	0	100	0
2011-12	0	14	86	0
2012-13	0	12	88	0

2013-14	20	20	60	0
2014-2015 continuing 3 rd Semester	44.4	22.2	33.3	0

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

Name of Examination	2009-10	2010-11	2011-12	2012-13	2013-14
CSIR NET/ DBT JRF/ ICMR JRF	57	80	33	42	40
GATE	71	100	100	-	-
JNU Ph.D.	14	20	16	14	
SET	Nil	Nil	Nil	Nil	Nil
Civil service	Nil	Nil	Nil	Nil	Nil
Others (BCIL)	100	100	100	100	100

35. Student Progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M.Phil.	NA
P.G. to Ph.D.	90%
Ph.D. to Post Doctoral	70%
Employed <ul style="list-style-type: none"> Campus selection other than campus recruitment 	100%- Placement for training as Apprenticeship Through Biotech Consortium India Limited, New Delhi.(a public limited company, promoted by the Department of Biotechnology, Govt. by India) 90%- Academic placement- (placed in reputed research institute/organization/Universities by acquiring fellowship from various funding agencies viz., UGC, DBT, ICMR, CSIR, DST, BRNS) Industrial placement: placement in R& D in Biotechnology industry 10 %
Entrepreneurs	1. Dr. Sawan Kumar, Manager, Process Development Sea6Energy Pvt. Ltd., 2. Saurabh Bhanusali

36. Diversity of Staff

Percentage of faculty who are graduates of :			
	UG	PG	Ph.D.
Same University	25%	50%	75%
From other universities within the state from	50%	25%	Nil
Universities from other states from Universities	25%	25%	25%
Outside the country	-	-	-

37. Number of faculty who were awarded M. Phil, Ph.D., D.Sc. and D.Litt. During the assessment period: (2010-15): 01

38. Present details of Departmental infrastructural facilities with regards to

a. Library:

Biotechnology library aims to provide access to best of the world's biotechnology related books. This makes every effort to provide its users a core collection of all types of books related to Biotechnology. Library collection contains more than 1200 different foreign author books up dated with new edition.

- Text and reference books : Approximately 1200 books, purchased from DBT and UGC Grants
- e-Journals Subscribed: Springer, Wiley and selected journals of Elsevier through University INFLIBNET centre.

List of Journals

Sl. No.	Name of the Journal
1.	Current Science
2.	Resonance
3.	Indian Journal of Experimental Biology
4.	Indian Journal of Biotechnology
5.	Indian Journal of Biochemistry & Biophysics
6.	Advanced Biotech
7.	Journals of Biosciences

Library offers following services to Faculty, research scholars and students:

- Books circulation services
- 24 h Internet facility/ -Online access through remote authentication
- Study room with capacity : 15,
- Library opened for 15 hrs per day x 7 days
- Research assistance
- Reprographic facilities
- Text books in library covers the following broad subjects/ Area:
Molecular biology, Biochemistry, Bioinformatics, Cell Biology, Microbiology, Biostatistics, Food Processing Biotechnology, Plant Biotechnology, Animal Biotechnology, Genetics, Enzyme Technology, Plant breeding, Plant Physiology, Fermentation technology, Immunology, Organic chemistry, Biotechnology, Industrial biotechnology, Environmental

Biotechnology, Functional Genomics, Molecular biotechnology, Insect immunology, Toxicology of Fishes, DNA Methylation, Metabolomics, Chromatography, Animal cell culture, Sperm Biology, Molecular genetics of Bacteria, Industrial Microbiology, Ecology, Food Microbiology, Stem Cell Technology, Nanobiotechnology, Recombinant proteins, Microscopy, Epigenetics, Developmental Biology, Radioisotopes in Biology, Intellectual Property Rights, Endocrinology, Stem cell technology, Redox biology, Protein purification, Gene Mapping, Insect molecular biology, Biology of Aging, HIV-AIDS, Laboratory Manual in Biotechnology, Experimental Biotechnology, Monoclonal Antibodies, Plant breeding, Neurotoxicology.

- b. Internet facilities for staff and students:

Total no of computers connected with Internet:15

University has state-of-the-art ICT infrastructure in the Campus. All class rooms and administrative room are well connected with internet facilities for 24hr.

- c. Total Class rooms with ICT facility: 02.

- d. Students Laboratories: 03

- e. Research Laboratories: 03

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

Ph. D. Students				Research Associates			
Sl. No.	From the host Institution/ University	Sl. No.	From other institutions/ Universities	Sl. No.	From the host institution/ University	Sl. No.	From other institutions/ universities
1	Umakanta Subudhi	1	Pranati Sar	1	Dr. Srikanta Jena	1	Dr. Jyotsnarani Pradhan
2	Srikanta Jena	2	Anjan K Pradhan			2	Anjan K Pradhan
4	Santosh K Sethi	3	Sneha Singh			3	Deepak Kumar
4	Jyostnarani Pradhan	4	Deepak Kumar			4	Sneha Singh
		5	Madhumita Panda			5	Arpita Saha
		6	Bhubaneswar Pradhan			6	Namita Khanna
		7	Rajeev Ranjan			7	Saswat Bal
		8	Vineeta Rai			8	Sashikala
		9	Ranjita Misra			9	Rashmi Kumari
		10	Kasturi Bala Nayak			10	Nitin Keshari
		11	S. Agatheeswaran				
		12	Sunita Patro				
		13	Aditya K. Panda				
		14	Mamata Ray				

	15	Santosh K. Panda		
	16	Suphiya Parveen		
	17	Alok Das Mohapatra		
	18	Prasenjit Mondal		
	19	Priyanka Kar		
	20	Binod Bihari Sahu		
	21	Saswat S. Mohapatra		
	22	Gopal Krishna Sahu		

40. Number of post graduate students getting financial assistance from the university:14

Students are getting financial assistance in terms of fellowship from DBT, Govt. of India and Govt. of Odisha-

Sl. No	No of students	Financial Assistance
1	10	DBT, Govt. of India-All selected students receive a studentship @ Rs 3000/- per month & One summer training and dissertation grant for the project work @ Rs 50000/- per student.
2	4	Govt. of Odisha- Rs. 2000/ Student/ month

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

- Implementation of Choice Based Credit System (Semester System).
- Pre-Ph.D. course work- Revised Ph.D Course work were discussed in the Board of Studies Meeting as well as Teachers Council Meeting.

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.

Analysis has been done and suggestions have been implemented. The matter is discussed in the Teachers' Council of the Department and steps are taken accordingly.

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

- Analysis has been done and suggestions have been implemented.
- Suggestions of the students are taken into account.

c. Alumni and employers on the programmes offered and how does the Department utilize the feedback? YES

The matter is discussed in Teachers' council and steps are taken accordingly.

43. List of the distinguished alumni of the Department.

Sl No.	Name	Designation
1	Prof. S. P Adhikary, D.Sc.	Vice Chancellor of Fakir Mohan University, Balasore
2	Prof. GBN Chainy, FNASc.	Visiting Professor, PG Deptt. of Biotechnology
3	Prof. Luna Samanta	Prof. in Zoology, Ravenshaw University
4	Dr. Umakanta Subudhi	Scientist C, IMMT, Bhubaneswar
5	Dr. Jibanjyoti Panda	Scientist-C, Institute of Nano Science and Technology, Chandigarh, Punjab
6	Dr. Aseem Mishra	Project Scientist, IMMT, Bhubaneswar
7	Dr. Kajari Das	Lecturer in Biotechnology, OUAT
8	Dr. Saktikanta Rath	Lecture, P.G. Dept of Biotechnology, Ravenshaw University
9	Dr. Srikanta Jena	Lecture, P.G. Dept of Zoology, Ravenshaw University
10	Dr. Priyankar Sen	Lecture in Biotechnology, VIT, Vellore
11	Dr. Jyotsnarani Pradhan	Lecture, P.G. Dept of Biotechnology, Utkal University
12	Dr. B. Paital	Lecturer in Zoology, OUAT
13	Dr. Sawan Kumar	Manager, Process Development Sea6Energy Pvt. Ltd.

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

Sl. No.	Date of the Seminar	Year	Name of the Visiting Faculty	Title of the talk
2010				
1	04/08/2010	2010	Dr. Anurag Mitra	Molecular Aspects of Male Infertility
2	20/09/2010	2010	Prof. Rabi Nayak, NISER, Bhubaneswar	Immunological Memory a Different Look
2011				
3	21/04/2011	2011	Dr. Snehasish Mishra, KIIT University, Bhubaneswar	Fermentation Technology
2012				
4	07/11/2012	2012	Dr. B.N. Sarkar, Anthropological survey of India	Human Genome Project and its Multi-Dimensional Applications
5	24/11/2012	2012	Dr. Ranjan Kumar Nanda, ICGEB, New Delhi	Bio-Signature for Tuberculosis Diagnosis
6	13/12/2012	2012	Dr. Khirod Kumar Sahoo, ICGEB, New Delhi	Bridging Yield Gap in Plants by Gene Pyramiding-Efforts and Success
7	18/12/2012	2012	Dr. D.P. Mahapatra, Dept. of Pharmacology, University of Iowa, USA	A Voltage Activated Potassium Channel that dictates Neuronal Resilience or Suicidal fate in Response to Diverse Assaults on Mammalian Brain
2013				
8	19/09/2013	2013	Dr. P. Singroo, NISER, Bhubaneswar	Neural Circuitry of Feeding and Energy Expenditure
9	20/09/2013	2013	Prof. S.P. Bhunya, Retd. Prof. Zoology, Utkal University, Bhubaneswar	Disfunction of the Mitochondrial DNA and Human Disease
10	12/11/2013	2013	Prof. Uttam Pati, JNU, New Delhi	Oxygen Sensing and Hypoxic Tumour
11	19/11/2013	2013	Dr. Nivedita Lenka, NCCS Pune	Stem Cells-Its Basic Biology and Application
12	28/12/2013	2013	Dr. P.K. Pati, Guru Nanak Dev University, Amritsar	Biotechnological Intervention in Crop Improvement
13	28/12/2013	2013	Dr. Aseem Mishra, ICGEB, New Delhi,	Is 'Science' worth a Carrier
2014				
14	03/01/2014	2014	Prof. A.K. Pani, Dept. of Devpt. Neurobiology, St. Jude Children's Research Hospital, USA	Parkinson's Disease
15	13/11/2014	2014	Dr. Shib Shankar Sen, IICB	Phylomers: For Discovery of

			Kolkata	Novel Cell Penetrating Peptides for Cutaneous Leishmaniasis
16	05/12/2014	2014	Prof. S.P. Adhikari, V.C., FM University, Balasore	Science through Ages
17	09/12/2014	2014	Dr. T. Mohapatra, Director, CRRI, Cuttack.	Resisting Mutagenesis in the Genomics Era
2015				
18	30/07/2015	2015	Dr. S.K. Ray, Associate Professor & Head, MBBT Department of Molecular Biology and Biotechnology Tezpur University, Tezpur	Codon Usage Bias in Bacteria
19		2015	Dr. AK. Panda, NII, New Delhi	Vaccine technology
20	08/08/2015	2015	Dr. Abhijit Dey, Scientific Officer E, Tata Memorial Centre, Kharghar, Navi Mumbai, India.	Imaging of Cancer cells
21	21/08/2015	2015	Prof. B. Senthil Kumar, School of Life Science, University of Hyderabad	Sex Differentiation in Brain
22	10/10/2015	2015	Dr. Dhaneshwar Prusty, Dept. of Biotechnology, Ravenshaw University. Cuttack.	Prokaryotic DNA Replication within an Eukaryotic Parasite: A Validated Drug Target

45. List the Teaching methods adopted by the faculty for different programme.
- Conventional black board method,
 - Multimedia presentation-Power point presentation and ICT based audio-visual lectures using LCD projector.
 - Use of videos and animations from internet.
 - Special skill enhancement for practical skills by allowing students to do experiments individually.
 - Student seminars to enhance communication and self-learning skills
 - Demonstration with Laboratory Classes
 - Project work supervised by faculty members.
46. How does the Department ensure that programme objectives are constantly met and learning outcomes are monitored?
- Programme objectives are continuously evaluated by the successes of the students in National level Entrance examinations viz., CSIR/UGC NET / DBT JRF / ICMR JRF, GATE, JNU Ph.D, BCIL training programme and placement record.
- Regular class test/ evaluation
 - lab presentation
 - End-Semester Examinations
 - Mid Semester Examination

- Quiz
 - Interaction Session in the Class/ Laboratories.
 - Seminar Presentation
47. Highlight the participation of students and faculty in extension activities.
- Free health check up,
 - Skill development in colleges (Degree) through Departmental faculty and scholars.
 - Participation in Swach Bharat Abhiyan
 - Scientific and spiritual extension talks.
 - Cultural activities
 - Participation of students in sports/ Extracurricular activities.
 - Visit of School children/ college Teachers to Laboratories.
 - Alumni get-together and popular talks
48. Give details of “Beyond syllabus scholarly activities” of the Department
- Organizing national Seminars and lectures by eminent Professor/ Scientist /Post Doctoral Fellow/ Industrial Persons
 - Organizing Workshop for college teachers and students
 - Inspiring talks for the students hosted and sponsored by the Department alumni
49. State whether the Programme/Department is accredited /Graded by other agencies?
YES
- The programme/Department is accredited by DBT, Govt. of India and BCIL
 - DST-PURSE
50. Briefly highlight the contributions of the Department in generation of new knowledge, basic or applied:
- Faculty members/ Research scholars are engaged in cutting edge research in Biotechnology and have published the research findings in National and International journals of repute.

For details please refer Annexure- I

- The Department is contributing for the generation and dissemination of new knowledge by arranging Special lectures/workshops/seminars/Skill Development Programs involving external as well as Internal experts
- The basic or applied knowledge acquired from the findings of ongoing research are presented in State/ National/ International forums in form of Seminars/ Conferences/ Workshops/ Symposia/ Interactive sessions as mentioned below.
- Prof. J. Dandapat has been selected to present a paper in International conference on oxidative stress reduction, Redox Homeostasis and antioxidant, Institute of Pasteur, Paris.
- Anita Roy & J. Dandapat (2014) Long term curcumin treatment modulates p53 expression in testis of hypothyroid rats. in International symposium on

genetic analysis: translational and developmental & Annual meeting of Society of Biotechnologist (India), November 21-23, 2014

- Anita Roy & J. Dandapat (2014) Persistent curcumin treatment ameliorates 4-Hydroxynonenal (4HNE) induced protein carbonylation in neonatal hypothyroid rat testis. In: 83rd annual meeting of Society of Biological Chemists (INDIA) Evolution: Molecules to life December 18-21, 2014
- Anita Roy & J. Dandapat (2014) Curcumin failed to modulate altered oxidative stress marker in PTU induced neonatal hypothyroid rat testis. In: National conference on current trends in life science research and challenges ahead. 28th feb-2nd March, 2014, Sambalpur University, Sambalpur.
- Anita Roy & J. Dandapat (2014) Neonatal hypothyroidism induces serum 4-hydroxy-2-nonenal (4-HNE), a bioactive oxidative stress marker, in male rats and its regulation by curcumin. In: National symposium on emerging trends in Biotechnology: present scenario and future dimensions. 29th-30th March, 2014, Utkal University, Bhubaneswar.
- Suresh Kumar Bunker, G. B. N. Chainy, J. Dandapat.(2014). “Comparative study of methylation pattern of catalase promoter in liver, kidney and cerebral cortex tissues of male rats during aging.” National symposium on Emerging trends in Biotechnology: Present scenario and future dimensions. March 29th-30th, 2014. Organized by P.G. Department of Biotechnology, Utkal University, Bhubaneswar, Odisha.
- Suresh Kumar Bunker, G. B. N. Chainy, J. Dandapat (2014) “PTU induced Neonatal Hypothyroidism Modulates Methylation Pattern of Catalase Promoter in Rat Liver”. International Symposium on Genetic Analysis Translational and Developmental and Annual Meeting of Society for Biotechnologists (India). November 21st to 23rd, 2014.Organized by Department of Zoology, University Of Burdwan.
- G. B. N. Chainy, Suresh Kumar Bunker, J. Dandapat (2014). “Down regulation of hepatic catalase in PTU- induced hypothyroid rats is due to promoter methylation. 84th Annual Session of the National Academy of Sciences, India. 04-06 December, 2014. Organized by Jai Narayan Vyas University, Jodhpur (B/85/2014).
- Suresh Kumar Bunker, G. B. N. Chainy, J. Dandapat “Neonatal Persistent Hypothyroidism Modulates Rat Hepatic DNA Methyltransferase 3b (DNMT 3b) Expression in Adulthood. 83rd Annual Meeting of the Society of Biological Chemist of India. 17-21 December 2014. Organized By KIIT University Bhubaneswar, Institute of Life Sciences, Bhubaneswar and NISER Bhubaneswar.
- S. Kumar, A. K. Hati, G. B. N. Chainy, L.K. Nanda, J. Dandapat (2014).“Effect of homoeopathic preparations of Rauwolfia serpentina on deoxycorticosterone acetate (DOCA)-salt induced hypertensive rats” National Conference on Ethnopharmacology and Biotechnology in Drug Development: Prospects and Challenges. November 2014. Organized by Bundelkhand University, Jhansi and Society for Ethnopharmacology, India.
- Sandeep Kumar, Akshaya Kumar Hati, Jagneshwar Dandapat, Gagan B. N. Chainy, Laxmikanta Nanda Effect of homoeopathic preparations of Rauwolfia

serpentina on deoxycorticosterone acetate (DOCA)-salt induced hypertensive rats. National Conference on Current trends in Life sciences research and challenges ahead. Organized by School of Life sciences, Sambalpur University, Sambalpur.

- S. Sahu, A. Dutta, J. Dandapat, N. Mohanty (2014). Effect of micronutrients on growth response and antioxidant defense system of silkworm *Antheraea mylitta*. National Conference on Current trends in Life sciences research and challenges ahead. Organized by School of Life sciences, Sambalpur University, Sambalpur.
- Sandeep Kumar, Akshaya Kumar Hati, Jagdishwar Dandapat, Gagan B. N. Chainy, Laxmikanta Nanda (2014) "Expression of antioxidant enzymes in cardiac tissue of deoxycorticosterone acetate (DOCA)-salt induced hypertensive rat: Effect of homoeopathic preparations of *Rauwolfia serpentina*." National symposium on Emerging trends in Biotechnology: Present scenario and future dimensions. March 29th-30th, 2014. Organized by P.G. Department of Biotechnology, Utkal University, Bhubaneswar, Odisha.
- Sandeep Kumar, Akshaya Kumar Hati, G. B. N. Chainy, Laxmikanta Nanda, Jagdishwar Dandapat (2014) "Modulation of rat kidney SOD expression by homoeopathic preparations of *Rauwolfia serpentina* on deoxycorticosterone acetate (DOCA)-salt-induced hypertensive rats." 83rd Annual Meeting of the Society of Biological Chemist of India. 17-21 December 2014. Organized By KIIT University Bhubaneswar, Institute of Life Sciences, Bhubaneswar and NISER Bhubaneswar.
- S. Sahoo, J. Dandapat, G.B.N. Chainy (2014) "Alteration of Bax expression in seminiferous tubule cells of neonatal hypothyroid wistar rats." 83rd Annual Meeting of the Society of Biological Chemist of India. 17-21 December 2014. Organized By KIIT University Bhubaneswar, Institute of Life Sciences, Bhubaneswar and NISER Bhubaneswar.
- S. Sahu, A. Dutta, J. Dandapat, N. Mohanty (2014). "Selenium modulates antioxidant defense response in the mid gut tissues of Vth instar larvae of *Antheraea mylitta*." National seminar Organized by Department of Zoology, North Orissa University.
- P R Debata (2014) "Natural compounds with synergistic anticancer properties: A potential candidate for cancer therapy." National symposium on Emerging trends in Biotechnology: Present scenario and future dimensions. March 29th-30th, 2014. Organized by P.G. Department of Biotechnology, Utkal University, Bhubaneswar, Odisha.
- S. Jena, B Patra, S. Sah, J. Dandapat, GBN Chainy (2014) "Curcumin ameliorates oxidative stress without modulating the expressions of antioxidant enzymes in 6-n-propylthiouracil (PTU)-induced hypothyroid rat testes." National symposium on Emerging trends in Biotechnology: Present scenario and future dimensions. March 29th-30th, 2014. Organized by P.G. Department of Biotechnology, Utkal University, Bhubaneswar, Odisha.
- Sahoo, S. A. Dutta, J. Dandapat, L. Samanta (2014) "Tissue and sex specific redox status and antioxidant defenses during pupal diapause of *Antheraea mylitta*." National symposium on Emerging trends in Biotechnology: Present

scenario and future dimensions. March 29th-30th, 2014. Organized by P.G. Department of Biotechnology, Utkal University, Bhubaneswar, Odisha.

- Dutta, S. Sahu, I. Das, A. Datey, J. Dandapat (2014). "Immune response and antioxidant defense status in the larvae of tasar silk worm, *Antheraea mylitta* D. challenged with *Escherichia coli*". International Symposium on Genetic Analysis: Translational and Developmental & Annual Meeting of Society for Biotechnologists (India). November 21-23, 2014. Organized by Department of Zoology, The University of Burdawn.
- P.R. Debata, D. Kumar, D. Rout, P.K. Nayak, J. Dandapat.(2014). "Curcumin and Ellagic Acid synergistically induce p53 accumulation and apoptosis in HeLa cervical carcinoma cells." International Symposium on Genetic Analysis: Translational and Developmental & Annual Meeting of Society for Biotechnologists (India). November 21-23, 2014. Organized by Department of Zoology, The University of Burdawn.
- Suresh K Bunker, U Subudhi, J Dandapat, G.B.N. Chainy. (2013). "DNA methylation pattern of rat liver catalase promoter is modified by aging and neonatal Hypothyroidism". First International and Third National Conference on Biotechnology, Bioinformatics and Bioengineering. June 28-29 2013. Organized by Society for Applied Biotechnology (India), Sri Venkateswara University, Tirupati, Andhra Pradesh India. Pp 46.
- Suresh K Bunker,U Subudhi, J Dandapat, G.B.N. Chainy. (2013) "Aging Modulates methylation pattern of catalase promoter of rat liver". National Conference on Emerging Trends and Challenges in Basic and Translational Research in Biochemistry. February 4-5, 2013. Organized by Under the auspices of Centre of Advanced Study, Department of Zoology, Banaras Hindu University, Varanasi UP India.
- Sahoo, S. Sahu, J. Dandapat and L. Samanta (2013) Oxidative damaged products, Level of Hydrogen Peroxide and Antioxidant protection in Diapausing pupa of tasar silkworm, *Antheraea mylitta*: A comparative study in two voltine groups. National Symposium on recent advances in beneficial insects. November 27-29, 2013. Organized by Indian Institute of Natural Resins and Gums (IINRG) and SANRAG, Ranchi.
- Dutta, S. Sahu, J. Dandapat and N. Mohanty (2013) Foliar supplementation of ascorbic acid and Glycine modulate antioxidant defence components in the larvae of tasar silkworm, *Antheraea mylitta*. National Symposium on recent advances in beneficial insects. November 27-29, 2013. Organized by Indian Institute of Natural Resins and Gums (IINRG) and SANRAG, Ranchi.
- The Department plays a vital role for the popularization of Biotechnology by organizing Seminars and lectures by Eminent Professors/ Scientists / Industrial R&D Experts.
- Faculty members usually deliver talks on recent developments in Biotechnology in the affiliated colleges/ National Institutes. Faculties and Research Scholars of the Department have disseminated the findings of ongoing Research in various conferences, seminars, symposia and workshops of National & International Repute and won certificates and prizes as recognition. For details please refer Sl. No. 29

- The research outcomes of the Department will ultimately bring a good contribution in the field of Biomedical and Agricultural Sciences. The research output is targeted for the welfare of the society in large including human and livestock's.

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

Strengths:

1. The Department is supported and monitored by Department of Biotechnology (DBT), Govt. of India, which ensures quality teaching, learning and research activities throughout the year for the research scholars and the students.
2. The Department is well equipped with State of the art infrastructure facility needed for teaching, research and practicals for Research scholars and students, backed by 24 hours power supply to run the research and academic activities smoothly.
3. As the Department is supported by the DBT, Govt. of India, students qualified through all India entrance examination for Biotechnology, gets admission in the Department, which helps in amalgamating the quality and cultures of students from different places of India. Our Post Graduation course has a high demand and we receive good number of applications for admission.
4. The library of the Department has all the latest edition of Text and Reference books relevant to Biotechnology and updated every year. It has also reprographic and scanning facilities.
5. The Department is also provided with 24 hours internet connectivity. All the class rooms and research labs have good ambience with modern ICT facilities (LCD projector/ OHP etc.)

Weaknesses:

1. Space constraint for expanding programs
2. Lack of dedicated seminar library, & conference hall
3. Provision of funds for maintenance of Infrastructure.

Opportunities:

- 1 Bio technology is the window to cutting edge research. We have an opportunity to teach highly motivated students at P.G. level to generate much needed human resources in National level.
- 2 To serve the R&D Sectors/Industries/ Institutes/ Organizations/ Universities of National & International repute with our trained manpower by orienting our programs with National thrust areas.
- 3 The Departmental research activities are augmented through Collaboration with reputed National / State institutions / laboratories. As Bhubaneswar is emerging as an important Educational hub we have enormous opportunities for academic and research collaboration with the Institutes in and around Bhubaneswar.
- 4 Interdisciplinary and innovative research work in the University by collaborating with other P.G. Departments of the University like Physics, Zoology, Chemistry, Botany and Computer Science.

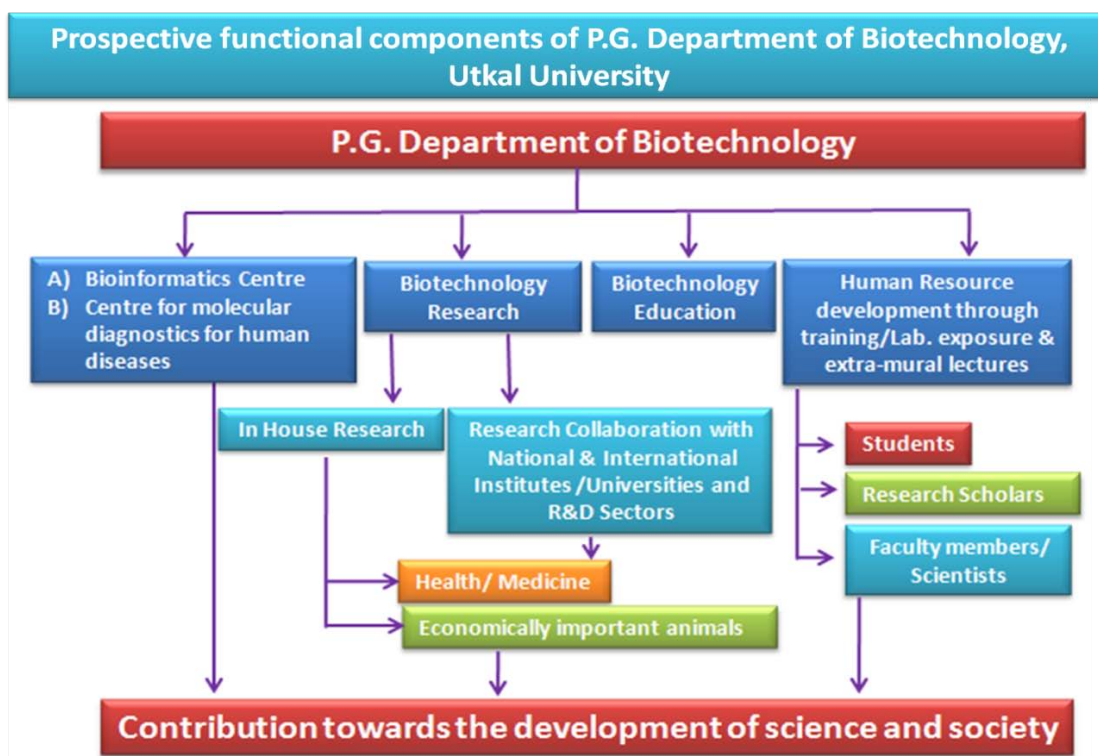
- 5 Helping under privileged and weaker section of the society through grass root Biotechnology.

Challenges:

1. To boost up and motivate students for higher studies and research in the current scenario, where a declined trend is observed in the inflow of quality and motivated students.
 2. To sustain and maintain the research facilities and infrastructure matching with the fast developing bio technology scenario with limited funds.
 3. To Involve in Societal Outreach Programme with limited faculty and students through innovations.
 4. To take the leadership in basic science training in the Country as well as to meet the requirement of the industry.
 5. To establish the Department as a Centre of Excellence in both Teaching and Research.
52. Future Plans of the Department

P.G. Department of Biotechnology, Utkal University has a vision to become a center of excellence in Biotechnology education, training and research in the Country and to develop a strong linkage between Academics, Research and Industry. The curriculum and the research strategies have been developed with integrative approaches in order to transform the idea and innovation of young talents into value added products.

In order to achieve the goals, Department envisages to have the following functional components by 2025



Ongoing Research Activities & Work Plan for next five years

The Ongoing Research Activities & Research Work Plan of the Department in the following interdisciplinary domain is appended herewith:

- Epigenetic studies, Redox regulatory mechanism, Redox Homeostasis and Immune response in Health Management.
- Pharmacological screening of Bioresources for Therapeutic Interventions in Oxidative Stress, Cancer and Endocrine Disorders.
- Development of Bioprocess, Biopolymeric Scaffolds, Diagnostic Tools and Nano-Medicines.

Initiatives of the Department:

- Collaboration with National / International Institute, Student training and faculty exchange programme with international institutes, Plan to obtain consultancy projects.
- In order to accomplish the research objectives, Department has initiated collaboration with reputed Institutes and applying for fundings to various National agencies (DST, DBT, UGC, DAE– Govt. of India) for infrastructure and research support.
- The Department is under process to accomplish the preliminary requisites and submit the Project Proposals in due course for consideration under UGC-SAP, DST-FIST & DBT BUILDER) for Interdisciplinary Life science Education and Research programme.
- The Department is under process to collaborate with Biotechnology based industries for exchange of Research and Technology transfer.

ANNEXURE-I

Total Research Publications (2010-2015) - 55

Publications in the Year -2015

1. Neonatal persistent exposure to 6 propyl- 2 Thiouracil, A Thyroid disrupting chemical, differentially modulates expression of hepatic catalase and C/EBP- β in adult rats, SK Bunker, J Dandapat, SK Sahoo, A Ray, GBN Chainy, J of Biochemical & Molecular Toxicology. DOI: 10.1002/jbt.21766 (2015).
2. Pro-oxidative challenges and antioxidant protection during larval development of non-mulberry silkworm, *Antheraea mylitta* (Lepidoptera: Saturniidae), A Sahoo, S Sahu, J Dandapat and L Samanta, Italian J of Zoology DOI: 10.1080/11250003.2015.1103319 (2015)
3. Age related decrease in rat liver catalase expression is associated with change in its promoter methylation pattern. S.K. Bunker, J. Dandapat, G.B.N. Chainy, Current trends in Biotechnology and Pharmacy 9(1): 88-96 (2015).
4. Effect of persistent and transient hypothyroidism on histo architecture and antioxidant defence system in rat brain. S. Jena, Neuro science 36(6):953-959 (2015).
5. Foliar supplementation of zinc modulates growth and antioxidant defense system of tasar silkworm *Antheraea mylitta*. S. Sahu, J. Dandapat, N. Mohanty, Journal of Entomology and Zoology Studies 3(2):25-35 (2015).
6. Oxidative Damaged products, Level of Hydrogen Peroxide and antioxidant protection in Diapausing Pupa of Tasar Silk Worm, *Antheraea mylitta*: A Comparative Study in Two Voltine Groups. A.Sahoo, J. Dandapat, L.Samanta. International journal of Insect Science, 7:11-17 (2015).
7. Neonatal hypothyroidism alters expression of antioxidant enzymes and redox status in adult rat seminiferous tubule cells. S.K. Sahoo, G.B.N. Chainy, J. Dandapat. Current trends in Biotechnology and Pharmacy; 9(2): 117-131 (2015).
8. Inter-domain helix h10_{DOMI}-h1_{DOMI} is important in the molecular interaction of bovine serum albumin with curcumin: spectroscopic and computational analysis. D. Pangen, C. Kapil, M.A. Jairajpuri, P. Sen. Eur Biophys J; 44 (3): 139-148 (2015).
9. Anti oxidant and Anti Infective Potential of Oleanolic acid acetate vis-à-vis *Vitex negundo* Linn. and *Oroxylum indicum* Vent. against human pathogens causing Infections of UT, GIT and Skin.” Journal of Oriental Pharmacy Experimental Medicines, Orient Pharm Exp Med., Springer, DOI 10.1007/s13596-014-0171-5, 15 (1), 73-82. (2015).
10. Synthesis, Characterization and Solvatochromic effect of Some Azo Based 2-Thioxopyrimidine-4,-6-dione Analogues and Their Antimicrobial Evaluation by J. Sahoo¹, S. Sahoo² and P. Sudhir Kumar, Asian Journal of Chemistry; 27,11 (2015).
11. Ethnobotanical Survey of Plants used in Treatment of Urinary disorders in Dhenkanal district of Odisha, India, Mahalik G, Sahoo S, and Satapathy KB, IOSR-JESTFT DOI: 10.9790/2402-09815863, 9(8), 58-63 (2015).

Publications in the Year -2014

12. Effect of iron stress on *Withaniasomni fera* L.: antioxidant enzyme response and nutrient elemental uptake in in vitro grown plants. J.R. Rout, S. Behera, S.S. Ram, S. Bhar, A. Chakraborty, M. Sudarshan. *Ecotoxicology*; 24 (2): 1389-1 (2014).
13. Hypothyroidism alters antioxidant defence system in rat brainstem during postnatal development and adulthood. S.Jena, S. Bhanja, *Neurol sci* 35 (8):1269-74, (2014).
14. Effect of aminotriazole on antioxidant defense system of tasar silkworm *Antheraea mylitta*. B Patra, S Sahu, J Dandapat, *Entomological Science*. 17: 316-323, (2014).
15. Effect of heavy metals on growth response and antioxidant defense protection in *Bacillus cerus*. M Behera, J Dandapat, CC Rath, *J of Basic Microbiol*; 54: 1201-1209, (2014).
16. Supplementation of T3 Recovers Hypothyroid Rat Liver Cells from Oxidatively Damaged Inner Mitochondrial Membrane Leading to Apoptosis. S Mukherjee, L Samanta, A. Roy, S Bhanja and GBN Chainy, *Bio Med Research International* Volume 2014, Article ID 590897,doi: 10.1155/2014/590897, (2014).
17. Anti-nephrotoxic Activity of Some Medicinal Plants from Tribal Rich Pockets of Odisha. S Mishra, SR Pani, S Sahoo, *Pharma Res*, 6(3):210-217 (2014).
18. Bioassay guided fractionation and hepatoprotective activity of oleanolic acid acetate isolated from *Vitexnegundo* Linn. S Mishra, S R Pani, KK Rout, S Sahoo, *J of Biol Active Products from Nature*, 4 (2):89 – 100, (2014).
19. *Agrobacterium rhizogenes* –mediated hairy root cultures of a multi-medicinal herb, *Boerhaaviadiffusa* L.: Optimization of transformation events and anti-microbial activity against bacterial pathogens causing UTIs. L Sahu, S Jena, SS Swain, S Sahoo and PK Chand, *Frontiers in Life Science*, 7(3-4):197-209 (2014).
20. Bioassay guided fractionation and hepatoprotective activity of oleanolic acid acetate isolated from *Vitexnegundo* Linn., S Mishra, SR Pani, KK Rout, S Sahoo, *Journal of Biologically Active Products from Nature* 4 (2): 89 – 100 (2014).
21. Evaluation of invitro antibacterial and antioxidant activities of *Melia azedarach* L. bark. By K.Akhtari, J. Somani, S.K.Nayak, Sabuj Sahoo, A. Mohapatra and KB Satapathy, *IOSR Journal of Pharmacy and Biological Sciences*. 9(6), 14-17 (2014).
22. Study on the antibacterial potential and phytochemical analysis of *Thespesia populnea* (L.) Sol. Ex Corr. Used in the treatment of diarrhoea and dysentery by J. Somani, K.Akhtari, S.K. Nayak, sabuj sahu, Mishra SK and KB Satapathy *Ameriacan Journal of Pahrmary and Health Research* 2(12): (2014).
23. Microbial Extracellular L-asparaginase: An Enzyme of Therapeutic Interest.by Biswaprakash Pradha^{nl}, Sashi K. Dash, Chandi C. Rath, Sweetty Pate, and Sabuj Sahoo. *Journal of Advaced Microbiology* 1(2): 75-88 (2014).
24. Ulcer-protective effect of *Avicennia officinalis* L., A common mangrove plant by N. Aparna, Saumya Ranjan Pani, Suman Kumar Mekap, Nabin Kumar Dhal, Sabuj Sahoo, *Pharmaceutical and Biological Evaluations*. 1(1), 1-8: (2014).
25. Evaluation of Antibacterial Efficacy of *Clerodendrum serratum* Linn. and *Clerodendrum viscosum* Vent. Leaves against some Human Pathogens causing UT and GIT Infection, N. Shukla, C.S. Panda, K. B. Satapathy, S. Sahoo and S.K. Mishra, *Res. J of Pharm. Bio. and Chem. Sci*. 5(6). 621-626: (2014).

Publications in the Year -2013

26. Replication of type 2 diabetes candidate genes variations in three geographically unrelated Indian population groups. S Ali, R Chopra, S Manvati, YP Singh, N Kaul, A Behura, A Mahajan, P Sehajpal, S Gupta, MK Dhar, GBN Chainy, AS Bhanwer, S Sharma, RN Bamezai, PLoS One 8(3):e58881. doi:10.1371/journal, (2013).
27. Seasonal variability of antioxidant biomarkers in mud crabs (*Scylla serrata*). B Paital, GBN Chainy, Ecotoxicol Environ Saf. 87:33-41, (2013).
28. In silico prediction of 3D structure of Mn superoxide dismutase of *Scylla serrata* and its binding properties with inhibitors. B Paital, S Kumar, R Farmer, GBN Chainy. Interdiscip Sci, 5(1):69-76, (2013).
29. Modulation of expression of SOD isoenzymes in mud crab (*Scylla serrata*): effects of inhibitors, salinity and season. B Paital, GBN Chainy. J Enzyme Inhib Med Chem, 28(1):195-204, (2013).
30. At very low concentrations known chaotropes act as kosmotropes for the N and B isoforms of human serum albumin. P Sen, MM Khan, AEE Ahmad and RH, Khan, Biochem. Cell Biol. 91: 72-78. doi.org/10.1139/bcb-2012-0035, (2013).
31. Modulation of antioxidant enzyme expression by PTU-induced hypothyroidism in cerebral cortex of postnatal rat brain. Bhanja S, Jena S. Neurochem Res 38(1):42-49, (2013).
32. Screening and characterization of extracellular L-asparaginase producing *Bacillus subtilis* strain hswx88, isolated from Taptapanihotspring of Odisha, India. B Pradhan, SK. Dash and S Sahoo, Asian Pacific J of Trop Biome, 3(12): 936-941 (2013).
33. Optimization of some physical and nutritional parameters for the production of L-asparaginase by isolated thermophilic *Pseudomonas aeruginosa* strain F1, B Pradhan, SK. Dash and S Sahoo, Biosciences, Biotechnology Research Asia, , 10(1), pp. 389-395, (2013).
34. Strain improvement of isolated *Bacillus Subtilis* Strain Hswx88 for extracellular L-Asparaginase production. International J of Pharmacy and Industrial Research. 3, 288-294: (2013).
35. In Vitro and In Vivo Antihepatotoxic Activity of *Oroxylum Indicum* Against Carbon-Tetrachloride Induced Hepatic Damage. Int. J Pharm. Sci. and Res, 4(8), 1000-1005: (2013).

Publications in the Year -2012

36. PEGylation of an osteoclast inhibitory peptide: Suitable candidate for the treatment of osteoporosis. J Akhtar, V Mallareddy, J Dandapat, P Maiti, SK Sahoo, and S Singh, (2012) International Journal of Pharmaceutics, 434: 429-436, (2012).
37. Hypothyroidism modulates renal antioxidant gene expression during postnatal development and maturation in rat. S Jena, GBN Chainy and J Dandapat, General and Comparative Endocrinology, 178: 8-18, (2012).
38. Curcumin differentially regulates the expression of superoxide dismutase in cerebral cortex and cerebellum of L-thyroxine (T₄)-induced hyperthyroid rat brain. S Jena, J Dandapat, and GBN Chainy, Neurological Sciences, (DOI 10.1007/s10072-012-1084-z), (2012)

39. Expression of antioxidant genes in renal cortex of PTU-induced hypothyroid rats: effect of vitamin E and curcumin. S Jena, GBN Chainy, and J Dandapat, *Molecular Biology Reports*, 39 (2): 1193-1203, (2012).
40. Induction of oxidative stress and inhibition of superoxide dismutase expression in rat cerebral cortex and cerebellum by PTU-induced hypothyroidism and its reversal by curcumin. S Jena, C Anand, GBN Chainy and J Dandapat, *Neurological Sciences*, 33 (4): 869-873, (2012).
41. Compromised rat testicular antioxidant defence system by hypothyroidism before puberty. DK Sahoo and A. Roy, *International J. Endocrinology* Vol. 2012; 11 pages, doi:10.1155/2012/637825, (2012).
42. Antimicrobial investigation of *Ammania baccifera* Linn. against some Urinary and Gastro-intestinal Tract infection causing pathogens. *Indian Drugs*. 49(12), 44-48: (2012).

Publications in the Year -2011

43. Nephroprotective effect of *Bauhinia variegata* (Linn.) whole stem extract, against Cisplatin induced Nephropathy in rats. SR Pani, S Sahoo, PK Panda, S Mishra, *Ind J Pharm*, 43:200-202 (2011).
44. Antiuro lithiatic Activity of Barks of *Crateva magna* Lour). SK Mekap, SR Mishra, S Sahoo, PK Panda, *Nat Prod & Res*, 2(1):28-33,(2011).
45. Hepatoprotective effect of *Barringtonia acutangula* leaves on carbon tetrachloride-induced acute liver damage in rats. SMishra, S Sahoo, KK Rout, SK Nayak, SK Mishra, PK Panda, *Nat Prod & Res*, 2(4): 515-519, (2011).
46. Pharmacological efficacy of *Argemonemexicanaplant* Extract, against cysteamine-induced duodenal ulceration In rats, P. K. Das, S. Pillai, D. M. Kar, D. Pradhan and S Sahoo *Indian Journal of Medical Sciences*, 65(3)(2011).
47. Hepatoprotective effect of *Bauhinia variegata* (Linn.) whole stem against Carbon tetrachloride induced Hepatopathy in rats, MAPSB, S.R. Pani, S Sahoo, PK.Panda, S. Mishra *Global Science Book*, 10(1): 62-65(2011).

Publications in the Year -2010

48. PTU-induced hypothyroidism modulates antioxidant defence status in the developing cerebellum. S Bhanja and GBN Chainy, *Int Journal Of Dev Neurosci*. 28(3):251-262, (2010).
49. Expression of hepatic antioxidant genes in L-thyroxine-induced hyperthyroid rats: Regulation by vitamin E and curcumin. U Subudhi and GBN Chainy, *Chemico-Biological Interactions*. 183(2):304-316, (2010).
50. Antioxidant defenses and oxidative stress parameters in tissues of mud crab (*Scylla serrata*) with reference to changing salinity. B Paital and GBN Chainy, *Comp Biochem and Phys C-Toxico& Pharma*. 151(1):142-151, (2010).
51. 2,2,2-Trifluoroethanol induces simultaneous increase in alpha-helicity and aggregation in alkaline unfolded state of bovine serum albumin. P Sen, B Ahmad, G Rabbani, RH Khan, *Int J Biol Macromol*. Mar 1; 46(2):250-4, (2010).
52. Methyl Cyanide induces α to β -Transition and Aggregation at High Concentrations in E state of Human Serum Albumin. P Sen, MA Iqbal, S Fatima and RH Khan. *Biochemistry (Moscow)* 75(3):367-74, (2010).

53. T₃ fails to restore mitochondrial thiol redox status altered by experimental hypothyroidism in rat testis. S Chattopadhyay, S Choudhury, A. Roy, L Samanta and GBN Chainy, *Gen and Comp Endo*; 169: 39-47, (2010).
54. Thiol redox status critically influences hepatic mitochondrial response to 3, 5, 3'-triiodothyronine-induced oxidative injury: A temporal analysis. S Chattopadhyay, DK Sahoo, A. Roy, L Samanta, and GBN Chainy, *Cell Biochem and Fun*; 28(2):126-134, (2010).
55. Antimicrobial Potential of the Volatile Oil of *Feronia Limonia* Swingle Leaves, DK Brahma, S Sahoo, SK Mishra S.K. and SR Mishra, *Indian Drugs*, 47(4): 69-71 (2010)



Post Graduate Department of
BOTANY



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department : P.G. DEPARTMENT OF BOTANY
2. Year of Establishment : 1969
3. Is the Department part of a School / Faculty of the University : Faculty of Science
4. Names of programme offered: P.G., M. Phil. & Ph. D.
5. Interdisciplinary programmes and Departments involved:
 Collaborative Research programmes in Nanotechnology with P. G. Department of Chemistry, in Phytochemistry and drug designing with P.G. Dept. of Biotechnology, DNA damage and repair with P. G. Dept. of Zoology, Utkal University and Nano fibre synthesis with Dept. of Physics, Utkal University.
 Two self – financing courses
 (i) M.Sc. in Applied Microbiology (16 seats)
 (ii) M. Sc. in Environmental Science (16 seats)
 In which guest faculties from different research institution and Universities are involved in teaching.
6. Course in collaboration with other Universities, industries, foreign institutions etc.
 Joint Ph. D. work with Fakir Mohan University, Berhampur University, North Orissa University, Orissa University of Agriculture and Technology, Odisha, India.
7. Details of programme discontinued, if any, with reasons : Nil
8. Examination System : Annual / Semester / Trimester / Choice Based Credit System
 i) M.Sc.- Semester and Choice Based Credit System
 ii) M. Phil- Semester
 iii) Ph.D. Course work- Semester and one elective paper
9. Participation of the department in the courses offered by other departments :
 i) Free elective Environmental Science course has been designed and offered to all P.G. Departments of the University.
 ii) The syllabus under CBCS has been developed and offered for other Department (Geology, Bio-technology, Anthropology) students.
 iii) The students of Botany department have been given the choice to opt for courses offered by other departments.
10. Number of teaching posts sanctioned, filled and actual (Professor/Associate Professors/Assistant Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	03	01	02 (01 direct recruited + 01 under CAS)
Associate Professor	02	01	01 (01 direct recruited)
Assistant Professor	05	03	02 (02 direct recruited +01 Promoted to Professor under CAS)

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. / M.Sc. students guided for last 4 years
Prof. P.K. Chand	M. Sc, Ph. D.	Professor	Transgenic Research and DNA Fingerprinting	33 years	6 (Ph. D.) 7 (M.Phil.)
Prof. A. B. Das	M. Sc, Ph. D., D.Sc	Professor	Cytogenetics and Plant Molecular Biology	25 years	2 (Ph. D.) M.Phil (1) M. Sc. (10)
Dr. C. Pradhan	M. Sc, M. Phil., Ph. D.	Reader	Plant Tissue Culture and Environmental Stress	13 years	3 (Ph. D.) Thesis Submitted 9 (M. Phil)
Dr. B. Panda	M. Sc, Ph. D.	Lecturer	Microbiology, and Algology	4 years	1 (M. Phil allotted)
Dr. B. Kullu	M. Sc, M.Phil., Ph. D.	Lecturer	Microbiology	4 years	1 (M. Phil)

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

Sl. No.	Name	Designation	Year
1.	Prof. R.C. Mohanty Former Professor Utkal University, Vani Vihar, Bhubaneswar	CSIR Emeritus Scientist, Gov. of India	2011-2014
2.	Prof. M. Kar Former Professor Utkal University, Vani Vihar, Bhubaneswar	UGC Emeritus Professor, Govt. of India	2013-2015
3.	Prof. H.K. Patra Former Professor Utkal University, Vani Vihar, Bhubaneswar	CSIR Emeritus Scientist, Govt. of India	2012-2016
4.	Prof. S.P. Rath Former Professor Utkal University, Vani Vihar, Bhubaneswar	UGC Emeritus Professor, Govt. of India	2015-2016
5.	Prof. Niranjan Behera Former Professor Sambalpur University, Sambalpur	University Guest Faculty	2015
6.	Late Prof. Narayan Behera Former Professor Berhampur University, Berhampur University	Visiting Professor	2010-2012
7.	Prof. S. L. Sahoo Former Professor Utkal University,	University Guest Faculty	2015

	Vani Vihar, Bhubaneswar		
8.	Prof. B. R. Choudhury, Former Professor Dhenkanol College, Dhenkanol	University Guest Faculty	2015

13. Percentage of classes taken by temporary faculty-programme-wise information:
About 7.5% class were taken by Temporary Faculty members time to time during last five years.
14. Programme-wise Student Teacher Ratio :
- (i) M.Sc. – 14: 1
- (ii) M.Phil. - 2: 1
- (iii) Ph.D. – 2:1
15. Number of academic support staff (Technical) and administrative staff: Sanctioned, filled and actual.

Post	Sanctioned	Filled and actual
Office Assistant	1	1
Demonstrator	5	2
Laboratory Attendant	5	3
Peon	1	1
Typist	1	1
Gardener	4	Nil
Gas and Water man	1	Nil
Specimen collector	1	Nil
Store keeper	1	Nil
Sweeper	1	1
Mechanic	1	Nil
Artist	1	Nil
Total	23	9

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

Sl. No.	Thrust areas Research	Funding agency
1.	Expression of antioxidant enzymes in <i>Abutilon indicum</i> under metal stress.	UGC, New Delhi
2.	Flora/Fauna Diversity Study in the Manoharpur coal block of OPGC in the Sundargarh district.	O. P. G.C Ltd., Bhubaneswar
3.	Enhanced Ethanol production from sweet potato (<i>Ipomoea batatus</i>).	UGC, New Delhi
4.	Morphological, biochemical and molecular characterization of elite mango genotypes of Odisha.	DST (Biotechnology) Govt. of Orissa
5.	Long term biodiversity studies of Similipal biosphere reserve.	CSIR, New Delhi
6.	Management of chromium toxicity stress by phytoremediation technology.	CSIR, New Delhi
7.	Identification and biological evaluation of some promising anti-diabetic plants from tribal-rich pockets of Orissa.	UGC, New Delhi

8.	Molecular screening of mungbean (<i>Vigna radiata</i> [L.] Wilczek.) germplasm for biotic and abiotic stress tolerance.	UGC, New Delhi
9.	Studies on the flora and fauna diversity in the captive coal block Utkal B2 of Talcher coalfield, Odisha.	Mandakini coal company Ltd., Odisha
10.	Bio-diversity study of the coalmine area at Chitarpur in Latehar district of Jharkhand.	Corporate Ispat Alloys Ltd., Abhijeet Group, Jharkhand
11.	Documentation of epiphytic and epilithic lichen biodiversity in 'Kapilas' and other protected forests of Dhenkanal of Odisha.	Odisha Biodiversity Board, Bhubaneswar,
12.	An impact on flora and fauna biodiversity due to Bauxite mining project at Panchpatmali central and north block ML.	NALCO, Panchpatmali Bauxite mines, Damanjodi, Koraput

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.

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned Rs. in lakhs	Received (Rs.) in lakhs
Completed Projects	2012-15	University Grants Commissions (U.G.C.), New Delhi	14.87	14.87
	2012-15	UGC, Govt. of India, New Delhi	11.80	11.80
	2013-15	UGC, Govt. of India, New Delhi	04.84	04.84
Ongoing Projects	2013-16	UGC, Govt. of India, New Delhi	09.42	09.42
	2013-16	Orissa Power Generation Corporation Ltd., Zone-A, 7 th Floor, Fortune Tower, Bhubaneswar-23	05.00	05.00
	2013-18	DST, Government of India, New Delhi	85.00	66.00
	2013-18	UGC, Government of India, New Delhi	49.00	12.90
	2014-16	Nalco, Damanjodi, Koraput, Odisha	14.65	14.65
	2014-16	Orissa Bio-Diversity Board, Odisha	01.06	01.06

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration

Sl. No.	Name of the Collaborator	Institute	Research Theme	Grant Received
1.	Dr. Ajay Saha, H.O.D. Botany	Tripura University, Tripura & Director, SIDAC,	"Promotion of Craft Sector through Design Intervention" under Design Inovation Centre	Rs. 5.00 Cores [Applied to Dept. of Higher Education, MNHRD, Govt. of India]
	Dr. Sisir Kumar Rath, Director			

		Bhubaneswar	(DIC)	
2.	Dr. Satyanarayna Jena, Senior Scientist,	CSIR-National Botanical Research Institute, Lucknow	Molecular Breeding, genetics and genomics in cotton	Concept note send to National Agricultural Science Fund, ICAR, New Delhi
3.	Prof. Santosh Panda, Head, Entomology,	Orissa University of Agriculture and Technology, Bhubaneswar	Characterization of silicon transporter gene in rice	Concept note send to National Agricultural Science Fund, ICAR, New Delhi
4.	Dr. Nrisingha Dey, Principal Scientist,	Institute of Life Sciences, Govt. of India	Novel Promoter for transgenics	Rs. 3.00 Cores [Applied to Dept. of Higher Education, MNHRD, Govt. of India]
5.	Prof. K. Pradhan, Prof. of Plant Breeding	Orissa University of Agriculture and Technology, Bhubaneswar	Molecular breeding of ground nuts	P.G. Research level

b) International collaboration :

Sl. No.	Name of the Collaborator	Institute	Research Theme
1.	Prof. Pat Hislop Harrison	Department of Molecular Cytogenetics, Lester University, UK	Physical mapping of Chromosomes and localization of fiber inducing gene
2.	Prof. Nabarun Ghosh	Department of Earth and Environment Science, West Texas A & M University, USA	Pollen allergens and Applied Microbiology
3.	Dr. Minaketan Tripathy	Department of Pharmaceutics, Faculty of Pharmacy, Universiti Teknologi MARA, Malayasia	Analysis of Phytoconstituents of medicinal plants
4.	Dr. Sitakanta Pattnaik	Senior Scientist, Kentucky University, USA	Transcription Factor and gene regulation

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

Sl. No.	Project Title	Funding agencies	Fund Sanctioned in lakhs	Fund received in lakhs
1	UGC SAP-II (2008-2012)	UGC, Govt. of India	50.00	38.65782
2.	UGC SAP-III (2013-2018)	UGC, Govt. of India	49.00	12.90
3.	DST-FIST (2015-2020)	DST, Govt. of India	85.00	66.00
		TOTAL	174.00	117.55782

19. Research facility / Centre with

- State recognition : Yes, P.G. Department of Botany is recognized by MOEF, Govt. of India as Centre of Environmental Monitoring and Assessment in odisha.
- National recognition : Yes (Govt. of India) by providing funding support for research through, UGC, DBT, ICAR, MOEF, NMPB, Govt. of India.
- International recognition : Nil.

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

21. Publications [Annexure-1]

- ❖ Number of papers published in peer-reviewed journals Total: 170 (National : 16, International : 154)
- ❖ Monographs : Nil
- ❖ Chapters in Books : 8
- ❖ Books with ISBN with details of publishers : 05 (Springer, Narosa (Delhi), Daya Publications (Delhi), Lambert (Germany))
- ❖ 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 : 9.1 / paper
- ❖ SNIP
- ❖ SJR
- ❖ Impact Factor – range / average :1.0
- ❖ h-index : 25

22. Details of patents and income generated : No Patents till date.

Rs. 39.84 lakhs obtained as consultancy projects

23. Areas of consultancy and income generated :

Orissa Power Generation Corporation, Bhubaneswar : Rs. 05.00 lakhs
Monnet Ispat Energy Limited, Bhubaneswar : Rs. 05.57 lakhs
National Aluminum Corportaion, Bhubaneswar : Rs. 14.65 lakhs
Mahanadi Coal Field Limited, Odisha : Rs. 14.62 lakhs

Total: 39.84 lakhs

24. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad
- (i) Prof. A. B. Das visited Molecular Cytogenetics Laboratory, Dept. of Molecular Biology, Leicester University, U.K. in 2010 under DBT Overseas Associateship Programme and worked on “Molecular cytogenetics of banana and crop improvement through di-haploid formation and incorporation of leaf blight registrant gene in table top banana” under with Prof. J. S. Heslop-Harrison.
25. Faculty serving in (a) National Committees (b) International Committees (c) Editorial Boards (d) any other (please specify)
- (i) Prof. P.K. Chand, Director, UGC-HRDC, Member Utkal University Syndicate, Question setter and Expert for Experts in different Selection Committee of Universities and Institutes.
- (ii) Prof. A. B. Das, Member-cum Co-ordinator, Recruitment of Teaching Faculties, Utkal University, Ph. D. and M.Sc. External Examiner in different Universities, Question setter in ICAR and different Universities, Reviewers in Journals, Experts in different Selection Committee of Universities, Institutes.
- (iii) Dr. C. Pradhan, DSW, Utkal University, Experts in different Selection Committees of Universities, Institutes, Colleges, Schools.

Name of the Faculty	Reviewers of the Scientific Journals	Board of Studies/SRC/Academic Council Member in Other Univ.
Prof. P. K. Chand		SRC Chairman, Botany, UU SRC member, Microbiology, UU SRC member, Env. Sci., UU Member, Board of Studies, Fakir Mohan University, Balasore Member Board of Studies, S.C.S. Autonomous College, Puri
Prof. A. B. Das	Biologia Plantarum, Springer Environmental Pollution Science Research, Springer The Nucleus, Springer Journal of Plant Physiology, Elsevier GmbH Journal of Plant Interaction, Taylor & Francis Journal of Plant Physiology and Biochemistry, Springer Aquatic Botany, Elsevier Plant Growth	SRC member Life Science, UU SRC member Botany, UU SRC member, Microbiology, UU SRC chairman Env. Sci., UU Member, Research Advisory Committee, PCCF, Govt. of Odisha Member Board of Studies, S.C.S. Autonomous College, Puri Member, Board of Studies, Fakir Mohan University, Balasore Member, Board of Studies, Sambalpur University, Sambalpur Member, Board of Studies, Pranath Autonomous College, Khurda Member of the Research Advisory Committee, Avian Research Institute, ICAR, Bhubaneswar Member of Academic audit, S.C.S. Autonomous College, Puri

	Regulation, Kluwer Academic Publishers, Netherlands Cell Biology International, Elsevier; Horticulture Sciences, USA Proceedings on National Science Academy (India), Springer New Phytology, Springer	Member of Academic audit, BJB Autonomous College, Bhubaneswar Member of the Academic Council, V.C. nominee, Nimapara Autonomous College, Nimapara
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26. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs) by Chinmay Pradhan

No of Days	Period		Training Area
	From	To	
21 Days	10/12/2013	30/12/2013	Geospatial Technologies, DBT , Govt. of India
2 Days	23/11/2013	24/11/2013	Promotion of Biotechnology in the Eastern Region to benefit SC/ST, poor people & women, DBT
21 Days	19/01/2013	08/02/2013	Refresher Course on Advances in Plant Sciences, Utkal University
7 Days	30/01/2012	07/02/2012	Faculty Development Programme, Utkal University
11 Days	11/10/2012	21/10/2012	Workshop on use of IT MHRD & Microsoft
21 Days	07/01/2010	27/01/2010	Refresher Course on Agricultural Science, Utkal University
28 Days	18/11/2010	15/12/2010	Orientation Programme in the subject Human Values in Education, Utkal University
5 Days	18/09/2009	22/09/2009	Refresher course on NSS,OUAT

- Refresher Course conducted: 2
- 19/01/2013 to 08/02/2013 “Advances in Plant Sciences”
- 07/01/2010 to 27/01/2010 “Agricultural Science”
- Conference/Workshop conducted: 5

27. Student projects

Percentage of students who have done in-house projects including inter-departmental projects: All students (32 nos.) in 4th Semester.

28. Award / recognitions received at the national and international level by Faculty:

Name of the Faculty	Awards/Recognitions received
Prof. A. B. Das	<ul style="list-style-type: none"> • DBT Overseas Fellowship, 2010 in Lester University, UK • Samanta Chandrasekhar Award, Odisha Bigyan Academy, 2010

Doctoral / post doctoral fellows :

Name of the student	Awards/Recognitions received
Akhatari Khatoon	• Maulana Azad National Fellowship (2013-2014)
Atia Arzoo	• Maulana Azad National Fellowship (2012-2013)
Basanti Majhi	• Rajib Gandhi National Fellowship (2013-2015)
Gyan Ranjan Mahalik	• Rajib Gandhi National Fellowship (2013-2015)
Priyadarshini Mallick	• Rajib Gandhi National Fellowship (2013-2015)
Rasmita Sethy	• Rajib Gandhi National Fellowship (2013-2015)
Ramakanta Mishra	• Project Fellow in Abhijeet Project (2013)
Jyotirmaya Mathan	• Project Fellow in Abhijeet Project (2013)
Prakash Ku Dalai	• Project Fellow in Abhijeet Project (2013)
Purnendu Narayan Mishra	• Project Fellow in Abhijeet Project (2013)
Amrita Choudhury	• Project Fellow in MCCL Project (2013)
Smaranika Nayak	• Project Fellow in MCCL Project (2013)
Priyanka Roy	• Project Fellow in Monnet Project (2014)
Mrs. Rajashree Patra	• BSR Fellow (2013)
Mr. Sandeep Nayak	• BSR Fellow (2013)
Ms. Somani Jethi	• BSR Fellow (2013)
Smaranika Naik	• BSR Fellow (2015)
Smaranika Mania	• BSR Fellow (2015)
Bismita Pradhan	• BSR Fellow (2015)

Students:

IMA Scholarship			
2011-2012	2012-2013	2013-2014	2014-2015
Smruti Gantayat	Anusuya Maharana	Amrita Kumari Mohapatra	Isani Behera
Jakesh Mohapatra	Muktipada Panda	Greeshma Biswal	Bhabani Sankar Choudhury
Bhagyashree Dash	Rasmita Sahoo	Padmaja Patel	Asis Kumar Khuntia
Ashok Panda	Prahallad Sahu	Aparna Dey	Ayushee Rath
Manoranjan Maharana	Eleena Panda	Sagar Prasad Nayak	Uttam Kumar Jena

Subhashree Pattanayak	Khusbu Agarwal	Deepika Samantray	Henali Pradhan
Samir Ranjan Swain	Soumyasmita Pradhan	Monalisa Pandab	K Shibani Mohanty
Sarada Nayak	Suchismita Biswal	Chandan Kumar Sahu	Srotaswini Pradhan
Smaranika Mania	Madhusmita Ojha	Swarnalata Tripathy	Prabhasinee Jena
Deepanjali Sahoo	Sonali Priyadarshini	Chandi Prasad Sahu	Shiva Gupta
Ranu Kisku	Nibedita Prusty	Samapika Si	
	Karubakee Dhal	Bhagyashree Mohanty	
	Rojalin Jena	Sampat Pratap	
	Abhipsa Panda	Samikhya Parida	
	Pranati Priyadarshini	Srimay Pradhan	
	Bhagyeswari Behera	Baijayanti Dhara	
	Sachidananda Madhei	Monalisha Nayak	
	Moumita Som	Subhasmita Panda	
		Manisha Naik	
		Sasmita Jagat	
Post- Matric Scholarship			
Supriya Routray	Uttam Kumar Jena	Niladri Nandan Das	Anil Kumar Gomango
Dedashankar Marandi	Jamuna Tudu	Sumitra Mundra	K.P. Saswati Swetalina
Bhramarabar Mallik	Madhusmita Dehury	Saubhagya Anand	Subash Shrambutika
Madhusmita Behera	Saubhagya Anand	Sasmita Jagat	
	Subhashree Malick	Sasmita Rani Jena	
POSCO Scholarship			
Isani Behera 2015			

29. Seminars/Conference/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any : 4 National seminars
30. Code of ethics for research followed by the departments: As per UGC guideline
31. Student profile programme –wise

Name of the Programme (refer to question No.4)	Application received	Selected		Pass percentage	
		Male	Female	Male	Female
M. Sc.	732.8 (Avg.)	15.6%	84.4%	100%	100%
M. Phil.	78.3 (Avg.)	11.8%	88.2%	100%	100%
Ph. D.	80.2 (Avg.)	23.0%	77.0%	100%	100%

32. Diversity of students

Name of the Programme (refer to question No.4)	% of students from the same university	% of student from other Universities within the State	% of students from Universities outside the State	% of students from other countries
M. Sc.	70	27	3	Nil
M. Phil.	80	20	Nil	Nil
Ph. D.	80	18	2	Nil

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

NET-07 nos., GATE- 13 nos, Civil/Defense Service Examination: Nil

SI No.	Name of the Student	Year	NET/GATE Qualified
1	Miss Niquehat Noor	2013	NET & GATE
2	Mr. Bharat Majhi	2013	NET & GATE
3	Miss Suchismita Rout	2013	NET & GATE
4	Miss Sonali Das	2013	GATE
5	Miss Smruti Gautayat	2014	NET & GATE
6	Mr. Manoranjan Maharana	2014	NET & GATE
7	Jakesh Mohapatra	2014	NET & GATE
8	Mr. Ashok Panda	2014	NET & GATE
9	Miss Smaranika Mania	2014	GATE
10	Shradha Mawatwal	2015	GATE
11	Eleena Panda	2015	GATE
12	Khusbu Agarwal	2015	GATE
13	Bhagyeswari Behera Behera	2015	GATE

34. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	Not applicable
P.G. to M.Phil.	25
P.G. to Ph.D.	25
Ph.D. to Post-Doctoral	15
Employed	
Campus selection	12
Other than campus recruitment	28
Entrepreneurs	02 Usha Kiran (Tissue culture), Mausumi Mishra (Dairy products)

35. Diversity of staff

Percentage of faculty who are graduates	All have obtained Ph.D. Degree.
Of the same University	1 Dr. C. Pradhan, Utkal University
From other Universities within the State	1. Dr. Bandana Kullu, Sambalpur University
From Universities from other States	1. Prof. A. B. Das, Calcutta University 2. Dr. B. Panda, IIT Kharagpur
From Universities outside the country	1. Prof. P. K. Chand, Norttingham University, UK

36. Number of faculty who were awarded M. Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:
- During the assessment period: 01
 - Before joining: 04
37. Present details of departmental infrastructural facilities with regard to
- Library : List Enclosed About 2918
 - Internet facilities for staff and students: Yes
 - Total number of class rooms: 2
 - Classroom with ICT facility : Yes
 - Students laboratories : 1
 - Research laboratories : 3
38. List of doctoral, post-doctoral students and Research Associates
- From the host Institution / University: About 37 Doctoral Students
 - From other Institution / Universities: About 14 Doctoral Students
39. Number of post graduate students getting financial assistance from the university.

Sl No.	IMA Scholarship (2011-2012)	Post Matric Scholarship (2011-2012)	POSCO Scholarship (2015)
1	Smruti Gantayat	Supriya Routray	Isani Behera
2	Jakesh Mohapatra	Dedashankar Marandi	
3	Bhagyashree Dash	Bhramarabar Mallik	
4	Ashok Panda	Madhusmita Behera	
5	Manorajan Maharana		
6	Subhashree Pattanayak		
7	Samir Ranjan Swain		
8	Sarada Nayak		
9	Smaranika Mania		
10	Deepanjali Sahoo		
11	Ranu Kisku		

Sl No.	IMA Scholarship (2011-2012)	Post Matric Scholarship (2011-2012)	POSCO Scholarship (2015)
1	Anusuya Maharana	Uttam Kumar Jena	
2	Muktipada Panda	Jamuna Tudu	
3	Rasmita Sahoo	Madhusmita Dehury	
4	Prahallad Sahu	Saubhagya Anand	
5	Eleena Panda	Subhashree Malick	
6	Khusbu Agarwal		

7	Soumyasmita Pradhan		
8	Suchismita Biswal		
9	Madhusmita Ojha		
10	Sonali Priyadarshini		
11	Nibedita Prusty		
12	Karubakee Dhal		
13	Rojalin Jena		
14	Abhipsa Panda		
15	Pranati Priyadarshini		
16	Bhagyeswari Behera		
17	Sachidananda Madhei		
18	Moumita Som		

SI No.	IMA Scholarship (2011-2012)	Post Matric Scholarship (2011-2012)	POSCO Scholarship (2015)
1	Amrita Kumari Mohapatra	Niladri Nandan Das	
2	Greeshma Biswal	Sumitra Mundra	
3	Padmaja Patel	Saubhagya Anand	
4	Aparna Dey	Sasmita Jagat	
5	Sagar Prasad Nayak	Sasmita Rani Jena	
6	Deepika Samantray		
7	Monalisa Pandab		
8	Chandan Kumar Sahu		
9	Swarnalata Tripathy		
10	Chandi Prasad Sahu		
11	Samapika Si		
12	Bhagyashree Mohanty		
13	Sampat Pratap		
14	Samikhya Parida		
15	Srimay Pradhan		
16	Baijayanti Dhara		
17	Monalisha Nayak		
18	Subhasmita Panda		
19	Manisha Naik		
20	Sasmita Jagat		

Sl No.	IMA Scholarship (2011-2012)	Post Matric Scholarship (2011-2012)	POSCO Scholarship (2015)
1	Isani Behera	Anil Kumar Gomango	
2	Bhabani Sankar Choudhury	K.P. Saswati Swetalina	
3	Asis Kumar Khuntia	Subash Shrambutika	
4	Ayushee Rath		
5	Uttam Kumar Jena		
6	Henali Pradhan		
7	K Shibani Mohanty		
8	Srotaswini Pradhan		
9	Prabhasinee Jena		
10	Shiva Gupta		

- 40.** Was any need assessment exercise undertaken before the development of new programme (s)? if so, highlight the methodology.

Yes. Approval from Teacher Council in accordance with UGC norms, rules and regulation of State govt. Higher Education Department and as per the statute of University. UG and P.G courses under Choice Based Credit System, Revised M.Phil. Course and Ph.D Course work have been introduced and the details were discussed in the Teachers Council Meetings and Board of Studies Meetings

- 41.** 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 per the suggestion of the faculty steps were initiated towards procurement of new equipment pertaining to specific experimental. The weekly seminars were organized and students were encouraged to compete in presenting seminar papers.

- b. Student on staff, curriculum and teaching-learning-evaluation and how does the Department utilized the feedback?

Basing on students' feedback remedial measures were taken from time to time.

- c. Alumni and employers on the programmes

Every year Alumni Association of the Department conduct quiz, debate, essay, group discussion, face the interview competition, seminar paper presentation to train and groom them for national level examinations.

- 42.** List of the distinguished alumni of the department (maximum 10)

About the Alumni Association:

1. Name of the Alumni Association: Old Student' Association, Post Graduate Department of Botany, Utkal University, Bhubaneswar
2. Regd. No. 7140-108 of 1996-1997.
3. **Contributions:**

The Association facilitates in enriching academics, researches, and carrier development of M.Sc., M. Phill and Ph. D. students.

4. Activities:

- (a) Organizes a special lecture '**Prof. S. N. Pattnaik**' memorial Lecture each year on 5th September inviting eminent researcher of the country.
- (b) The Department brings together past and present students on the alumni meet as an annual event on a statutory date i.e. the 3rd February every year and a news letter named "**Sanjog**" is brought out on the occasion.
- (c) The Department has been functioning as the central secretariat of Orissa Botanical Society for last 40 years.
- (d) The alumni conducts state level essay competition in name of "**Dr. Goura Chandra Bairiganjan Memorial Essay Competition**" among undergraduate students of Botany.
- (e) The alumni conducts state level essay competition in name of "**Dr. Guru Prasad Pattnaik Essay Competition**" among postgraduate students of Botany.
- (f) The alumni conducts state level elocution competition in name of "**Prof. Bidyadhar Memorial elocution Competition**" among postgraduate students of Botany.
- (g) The alumni conducts state level quiz competition in name of "**Mr. Kedar Nath Chhotaray Memorial quiz Competition**" among postgraduate students of Botany.
- (h) Awards students of the department for their all round excellence in the name of "**Narendra-Prativa Samman**".
- (i) Awards meritorious students of the department for their academic excellence in the name of "**Smt. Sarojini G. Panigrahi memorial Award**".
- (j) Alumni has been felicitating different botanists from the state for their significant contribution in the field of research and teaching.

List of the distinguished alumni of the department

Prof. B. C. Tripathy, Former Vice Chancellor, Ravenshaw University and Current Dean, Life Science, JNU, New Delhi

Prof. S. P. Rath, Former Vice Chancellor, North Orissa University, Baripada.

Prof. S. P. Adhikari, Vice Chancellor, Fakirmohar University, Balasore

Dr. Ajit Pattnaik, Additional PCCF and Chief Executive, Chilika Development Authority.

Dr. Prasanna Kumar Pradhan, Former Secretary, Health Govt. of India

Dr. Umesh Saranghi, former Chief Secretary, Maharashtra

Dr. Borada Kanta Mishra, Former Chairman & Member Secretary, Pollution Control Board, Govt. of Odisha

Dr. Ajay Kumar Mohapatra, Deputy PCCF, Govt. of Odisha

Dr. Bidyut Kumar Mohanty, Faculty, Medical University of South Carolina, USA

Dr. Sitakanta Pattnaik, Faculty Member, Kentucky University, USA

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

Department organizes field study for sample collection, identification of plants and practical field demonstrations from time to time as follows:

2011- Field study to Tikarpara, Anugul
 2012- Field study to Asurakumari, Nayagarh
 2013- Field study to Budhakhol, Ganjam
 2014- Field study to Kunaria, Dasapalla forest

Special lectures are arranged time to time. The following Distinguished Professors delivered talk on respective topics:

1. Prof. Reto Strasser, Geneva University on “Chlorophyll Fluorescence techniques”.
 2. Prof. B. C. Tripathy, Dean, School of Life Science, JNU on “Growth of plants in Space”
 3. Dr. R. K. Sarkar, Principal Scientist, CRRI on “Stress biology and submergence of plants”.
 4. Dr. Trilochan Pradhan, Director, IARI, New Delhi on ‘From Gene to Genomics’
 5. Padmashree Prof. Sudhir Sopory, Vice Chancellor, JNU on “Stress signaling pathways in plants”
- 44.** List of the teaching methods adopted by the faculty for different programmes.
 Power Point presentation, Black Board Teaching, Narration, short Project based assessment, assessment on stress management, Summer / Winter training, Field Visit, Study tour etc.
- 45.** How does the department ensure that programmes objectives are constantly met and learning outcomes are monitored?
 All students (100%) secured First Division, about 50% students are qualified for private company jobs, qualified for NET (13) and GATE (15) qualified for ARS and State Public Service Commission
- 46.** Highlight the participation of students and faculty in extension activities.
 Campus Cleaning (Swacha Bharat Avijan), Departmental Garden development, Awareness campaign such as Protect Planet Earth on World Environment Day.
- 47.** Give details of “beyond syllabus scholarly activities” of the department.
 Steps initiated for NET, GATE coaching and general awareness programme for career advancement through counseling. Project work on local based problems like phytoremediation, Noise monitoring of Bhubaneswar city, Water quality assessment of Bhubaneswar city, Biodiversity study was conducted in different places of Odisha.
- 48.** State whether the programme / department is accredited / graded by other agencies?
 If yes, give details.
 UGC supported DRS- SAPIII and DST supported FIST
- 49.** Briefly highlight the contributions of the department in generation of new knowledge, basic or applied.
 Dept. of Botany provides multi-disciplinary approach to solve the present day environmental stress as well as to develop knowledge based novel technology for the mitigation of different abiotic stress challenges to plants.
 Dept. is also engaged in assessment of genetic diversity and conservation of plants of economic importance of Odisha.

Environmental monitoring assessment was conducted by the Department for NALCO, MIEL, OPGC, MCCL, NIEL, MOEF Govt. of India

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

Strength:

- i) Department runs 2 self finance Courses (i) M.Sc. Applied Microbiology (ii) M. Sc. Environmental Sciences that produces Manpower in applied biology sector and generation of some funds for strengthening Research activities of the Department.
- ii) Consultancy on survey of floral distribution in mine areas and adaptation of phytoremediation techniques for mine revegetation programme for clearance of Mine activities of the State.
- iii) Alumni Association of the Department gets involved in curricular activities of the Department.
- iv) Department is the Central Secreterate of 40 years old “Orissa Botanical Society” helping in manpower generation in Botany by disseminating and popularization of Botanical knowledge in different Colleges of Odisha.
- v) Departmental Garden and experimental field for outdoor experimental research facilities.
- vi) Teaching contribution by retired Professors of the department who have joined as CSIR Emeritus Scientist / UGC Emeritus Professors
- vii) Use of assignments, case-study methodology, review of journal papers etc develop the analytical ability, decision making skills, ethics and multidimensional aspects and approaches to problem solving or development.

Weakness:

- i) No adequate manpower for maintenance of Experimental Garden of the Department.
- ii) No night watchman in the department for operation of round the clock Research Laboratory.
- iii) No Power Backup system for continuous power supply for research and teaching.
- iv) Inadequate lecture rooms and research laboratory with modern equipment facilities for cutting edge research.

Opportunities:

- i) Department have good collections of Herbarium which need to digital documentation for display for information and knowledge.
- ii) Documentation of chromosomal and DNA fingerprinting data base of mangroves flora of Bhitarkanika which has the largest biodiversity in Indian mangroves.
- iii) Discovery of new bio-molecules from different medicinal plants for new plant based drug development.
- iv) Exploration of new indicator plant species sensitive to various environmental stresses for monitoring of environmental pollution for human welfare beyond threshold limit.

- v) Interface of various advance research with various Laboratories through Scientific Collaboration.

Challenges:

- i) Establishment of Departmental Library and connectivity with E-library of the University for better learning opportunity of students.
- ii) Provision of Internet Facility to the students for updating knowledge and connectivity to other laboratories and Universities.
- iii) Student placement and employability through alumni and web based interaction.
- iv) Skill based training of self employment and entrepreneurship development in Bio-fertilizer, Tissue Culture, Mushroom culture, cash crop
- v) Exploration of new genes for submergence, draught and metal tolerance in rice for cloning and resistant plant development

51. Future plans of the department

Purchase of New Equipments under FIST, Procurement of Books as per update syllabus, E-Library connectivity, Formulation of New Project for different funding Agencies, Development of Department web-site with more emphasis for student corner, Development of Digital Herbarium, Development of Chromosome database of Orissa Mangroves, Student trainings in different Institute, Organization of Symposium and Workshops.

Annexure – 1

Publications (2010-2015)

2010

1. Rout JR, Kanungo S, Das R, Sahoo SL. 2010. *In vivo* protein profiling and catalase activity of *Plumbago zeylanica* L. Nat Sci.. 8 (1): 87-90.
2. Sethi BK, Kanungo S, Rout JR, Nanda PK, Sahoo SL. 2010. Effect of chromium on *Mucor* species and optimization of growth conditions. Nat Sci. 8 (4): 29-32.
3. Mishra S, Sahoo SL, Das R. 2010. Evaluation of drinking water quality in and around Nalco, Angul area with special reference to fluoride levels and its effects on human health. Int. J. Chem. Sci. 1(1): 1-12.
4. Nayak P, Behera PR, Thirunavoukkarasu M, Chand PK. 2010. High frequency plant regeneration through adventitious multiple shoot organogenesis in epicotyl explants of Indian gooseberry (*Emblica officinalis* Gaertn.) Scient. Hortic. 123: 473-478.
5. Mukherjee A, Naskar SK, Poddar A, Dasgupta M, Sahoo MR, Chand PK. 2010. Submergence and salinity tolerance in sweet potato (*Ipomoea batatas* L.) progress and prospects. Plant Sci. Res. 31: 1-9.
6. Behera PR, Nayak P, Barik DP, Rautray TR, Thirunavoukkarasu M, Chand PK. 2010. ED-XRF spectrometric analysis of comparative elemental composition of *in vivo* and *in vitro* roots of *Andrographis paniculata* (Burm.f.) Wall. Ex Nees - a multi-medicinal herb. Appl. Radiat. Isotop. 68:2229-2236.
7. Jena RC, Samal KC, Chand PK, Das BK. 2010. Molecular characterization of 12 mango germplasm using RAPD markers. Plant Tissue Cult. Biotech. 20(1): 91-99.
8. Khillar R, Acharya S., Mohapatra PK. 2010. Development of tolerance of *Solanum melangena* L. to field application of dimethoate. Bull. Environ. Contam. Toxicol. 85:67–71.
9. Mohapatra PK, Khillar R, Hansdah B., Mohanty RC. 2010. Photosynthetic and fluorescence responses of *Solanum melangena* L. to field application of dimethoate. Ecotoxicol. Environ. Safety. 73: 78–83.
10. Satapathy KB. 2010. Ethno-veterinary practices in Jajpur district of Orissa. Indian J. Trad. Knowl, 9 (2): 338-343.
11. Satapathy KB. 2010. Effect of various doses of super phosphate, cow dung and cattle-slurry on the growth of *Azolla*. Biohelica, 1(1): 41-44.
12. Satapathy KB. 2010. Effects of soils of varied pH on the growth and N₂ fixation of the water fern *Azolla*. Plant Sci. Res.32:114-118.

13. Satapathy KB, Chand PK. 2010. *Drosera burmanii* Vahl a threatened ethno-medicinal insectivorous herb from two mining pockets of Orissa. *Biohelica*. 1(2): 10-15.
14. Dash PK, Mohapatra PK, Kar M. 2010. Biodiversity of freshwater aquatic macrophytic vegetation of Similipal Biosphere Reserve, Orissa. *e-Planet* 8(1): 17-25.
15. Swain SS, Pal A, Sahu L, Pradhan C, Barik DP, Chand PK. 2010. Nutrient-alginate encapsulated nodal explants of butterfly pea (*Clitoria ternatea* L.) as synseeds for germplasm conservation and exchange. *Plant Sci. Res.* 32: 48-55.
16. Naik SK, Chand PK. 2010. Micropropagation of pomegranate through *in vitro* culture of meristems : a review. *Plant Sci. Res.* 32: 9-17.
17. Swain SS, Tripathy T, Mohapatra PK, Chand PK. 2010. Photosynthetic and transpiration responses of *in vitro* regenerated *Solanum nigrum* L. plants to *ex vitro* adaptation. *In Vitro Cell. Dev. Biol.- Plant* 46: 134-141.
18. Swain SS, Sahu L, Barik D, Chand PK. 2010. *Agrobacterium* x plant factors influencing transformation of Joseph's Coat (*Amaranthus tricolor* L.). *Scient. Hort.* 125 (3): 461-468.
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- 145.Nayak R, Panda A, Pradhan C, Samanta L, Sahoo SL. 2015. Characterization of antioxidant potential of *Abutilon indicum* and *Paederia foetida* L. IJSTM. 4(4): 95-103.
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- 149.Satapathy KB. 2015. Dwindling medicinal plant diversity in Sukinda valley of Jajpur district of Odisha (India) and their utilization and conservation. International Journal of Current Research. 7(1): 11274-11279.
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- 159.Das AB, Das A, Pradhan C, Naskar SK. 2015. Genotypic variations of ten Indian cultivars of *Colocasia esculenta* var. antiquorum Schott. evident by chromosomal and RAPD markers. Caryologia, 68(1): 44-54.
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- 164.Kullu B, Behera N. 2015. Physico-chemical characterization of different age series sponge iron solid waste dumps with respect to reclamation. *International Journal of Environmental Sciences* 5(6): 881-889.
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- 169.Noor N, Mishra RK, Nayak SK, Mohapatra A, Satapathy KB. 2015. Documentation of medicinal plants in Sikharchandi hills, Odisha, India - a priority agenda for action. The Journal of Biodiversity. Photon.
- 170.Satapathy KB. 2015. Medicinal plant diversity of Sukinda valley in Jajpur district of Odisha, India. International Journal of Medicinal Plants. Photon.



Post Graduate Department of
CHEMISTRY



EVALUATIVE REPORT OF THE DEPARTMENT

- 1 Name of the Department: P.G. DEPARTMENT OF CHEMISTRY
- 2 Year of establishment: 1967
- 3 Is the Department part of a School/Faculty of the university? : Faculty of Science
- 4 Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. , D.Litt., etc.) : M.Sc., M.Phil., Ph.D. & D.Sc.
- 5 Interdisciplinary programmes and departments involved :
Centre of Excellence: Nanobiotechnology (Chemistry, Physics, Botany, Zoology and Biotechnology)
- 6 Courses in collaboration with other universities, industries, foreign institutions, etc.:
 - M.Sc. Tech Material Science and Engineering, CIPET Bhubaneswar, Odisha
 - Joint Pre Ph.D. Course work with CIPET and IMMT
- 7 Details of programmes discontinued, if any, with reasons: No

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

Programmes	Annual	Semester	CBCS
M.Sc.	-	2010-2012	2013 onwards
M.Phil.	2010-2013	2014 onwards	-
Ph.D.		2011 onwards	-

- 9 Participation of the department in the courses offered by other departments : CBCS
2012 onwards Courses are offered
- 10 Number of teaching posts sanctioned filled and actual (Professors/Associate Professors/Asst. Professors/ others):

Faculty	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	02	01	01
Associate Professor/ Reader	05	02	02
Assistant Professor/ Lecturer	05	03	03
Others		05+01	Visiting Professors + Guest faculty

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

Name of Faculty Member	Qualification	Designation	Area of Specialization	No. of Years of Experience (Teaching + Research)	No. of Ph.D., M.Phil. students guided for last 5 years

Prof. Swoyam Prakash Rout	Ph.D., PDF	Professor	Environmental Chemistry	36(Superannuation: 30 th Nov 2010)	Ph.D.: 3 , M.Phil.: 2
Prof. Prakash Mohanty	Ph.D.	Professor	Inorganic Chemistry	35(Superannuation: 31 st Aug 2011)	Ph.D. : 4 , M.Phil.: 4
Prof. G. C. Pradhan	Ph.D.	Professor	Inorganic Chemistry	34 (Superannuation: 29 th Feb 2012)	Ph.D.: 4, M.Phil.: 6
Prof. S. Jena	Ph.D., PDF	Professor	Organic Chemistry	33(Superannuation: 30 th Sept 2014)	Ph.D.: 4, M.Phil.: 8
Prof. Prafulla Kumar Sahoo	Ph.D., PDF	Professor	Polymer Chemistry	25	Ph.D.: 12, M.Phil.: 8
Dr. Jashoda Behera	Ph.D.	Reader	Inorganic Chemistry	20	Ph.D.: 3(2 awarded + 1 submitted), M.Phil.: 8
Dr. Sushanta Kumar Badamali	Ph.D., PDF	Reader	Physical Chemistry	15	Ph.D.:1(submitted), M.Phil.: 9
Dr. Bijayalaxmi Jena	Ph.D.	Lecturer	Physical Chemistry	5	M.Phil.: 9
Dr. Ajaya Kumar Behera	Ph.D.	Lecturer	Polymer Chemistry	<1 (Joined on 17 th Dec 2014)	Nil
Mr. Hemanta Kumar Kisan	Ph.D. (Cont.)	Lecturer	Theoretical Organic Chemistry	<1 (Joined on 17 th Dec 2014)	Nil

12 List of Senior Visiting Fellows, Adjunct faculty, emiretus Professor:

Visiting Professor: 05

- Prof. P. Mohanty
- Prof. G. C. Pradhan
- Prof. A. K. Pattnaik
- Prof. C. S. Panda
- Prof. S. P. Rout

Guest Faculty: 01

- Mrs. Rashmita Padhi (Computer for Chemists)

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

- M.Sc.- 17 %
- M.Phil.- 0%
- Ph.D.- 0 %

14 Programme wise Student Teacher Ratio:

- M.Sc.- 11:1
- M. Phil.- 2:1
- Ph.D.- 2:1

- 15 Number of Academic Support staff (technical) and Administrative staff: Sanctioned filled and actual:

Items	Sanctioned Filled	Actual
Academic Support staff	04	18
Administrative staff	02	03

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

Materials and Coordination Chemistry

- DSA-I(2007-2012)-UGC
- DSA-II(2013-2018)-UGC
- DST-PURSE (2010-2014) programme, DST
- DST-SERC Fast track Project (2008-2011): PI: Dr. S. K. Badamali
- UGC project (2012-2014): PI-Dr. B. L. Jena

- 17 Number of faculty with ongoing projects from

Give the name of the funding agencies. Project title and grants received project wise:

- National: 03
 - Dr. Sushant Kumar Badamali (2008-2011): “Selective Oxidation of Lignin model Phenolic Monomer over cobalt containing SBA-15 molecular sieves”: 3 years 19,63,200/- (During 2011 around 3,50,000/- was released to Utkal University)-Funding agency: DST
 - Dr. B. L. Jena UGC minor project(2012-2014): “Biphenyl Benz-heterazol molecule for display technology”
Grant Sanctioned: Rs 1,75,000/-
Grant received: Rs 1,37,500/-
- International funding agencies: Nil
- Total grants received: 24,50,700/-

- 18 Inter institutional collaborative projects and associated grants received:

- National collaboration: 09
 - IIT Kharagpur
 - Jadavpur University Calcutta
 - GITAM University Vizag
 - CIPET Bhubaneswar
 - North Orissa University, Baripada
 - Tata Chemicals Pune
 - IMMT Bhebaneswar
 - Institute of Physics, Bhubaneswar
 - National Chemical Laboratory, Pune
 - IACS Kolkata
 - IIT Bombay
- International collaboration: Univ. of Science & Tech, Hefei, China

- 19 Departmental projects funded by DST-FIST, UGC-SAP/CAS, DPE, DBT, ICSSR, AICTE EAETC.; TOTAL GRANTS RECEIVED:

- DSA-I, UGC (2007-2012): Total grant received:Rs. 45,80,000/-
DSA-II, UGC (2013-2018): Total grant Sanctioned: Rs. 99,00,000/- Total grant received: 4,60,000/-
- DST-PURSE (2010-2014) programme, DST, Government of India: Total grant received:

- (2011-12) : 35,25,000/-
 (2013-14) : 21,00,000/- DST, Government of India
- 20 Research facility / Centre with
- State recognition: Centre of Excellence
 - National recognition:
 - DSA-I (2007-2012)-UGC
 - DSA-II (2013-2018)-UGC
 - DST-PURSE (2010-2014) programme, DST
 - DST-SERC Fast track Project (2008-2011): PI: Dr. S. K. Badamali
 - UGC project (2012-2014): PI-Dr. B. L. Jena
 - International recognition: Nil
- 21 Special research laboratories sponsored by/ created by industry or corporate bodies :
 Prof. Gokulananda Mohapatra Advance Chemistry Laboratory (Gokulananda Mohapatra Foundation (GNMF))
- 22 Publications: Number of papers published in peer reviewed journals with Impact Factor (national / international)/Edited Books:
- No. Research Papers Published: 122 (Please refer Annexure-I)
 - No. of Book published: 02
 Prof. P. K. Sahoo:
 - ‘Synthesis of Polymer Nanocomposites’, Published by Royal Society of Chemistry, London, UK, 2011.
 - “Environmental friendly Food Additives & Dyes”, Published by Reader Service, Kolkata, India, 2012.
- 23 Details of patents and income generated:
 01: A. K. Behera, S. Avancha, S. R. Chowdhury, R. K. Basak, P. K. J. Mohapatra, R. Sen and B. Adhikari, “Biodegradable and rigid natural resin matrix jute fiber reinforced composites” *Indian patent application No. 1136/KOL/2010*, Oct. 11, 2010.
- 24 Area of consultancy and income generated:
- Prof. S. P. Rout: Members in the Environment Impact Assessment Authority of the Government of India, Central Pollution Control Board
 - Dr. S. K. Badamali: Technical Committee member ICZMP project Odisha Pollution Control Board-2013
- 25 Faculty selected nationally/internationally to visit other laboratories / institutions / industries in India and abroad:
- Prof. S. Jena: Member of Indian delegation to China in the 9th mission of higher education to PR of China, during Nov. 2010.
 - Prof. P. K. Sahoo: Delivered two invited lectures and chaired a technical session in International Conference on fire safety material science, technology and engineering at Suzhou and Beijing China. (From 8th Oct 2015 to 15th Oct 2015)
 - Dr. S. K. Badamali: Visited to i) St.Petersburg University in Russian-Indian Symposium on Catalysis and Environmental Engineering” St.Petersburg Russia Sept 15-16 2013.
 - Russian Academy of Science St.Petersburg
- 26 Faculty serving in
- National committees:
 - Prof. S. P. Rout:

- Royal Society of chemistry, UK
 - Central Pollution Control Board, India
 - Members in the Environment Impact Assessment Authority of the Government of India.
 - Prof. G. C. Pradhan:
 - Member of Catalysis Society of India
 - Members of Microbiological Society of India
 - Prof. S. Jena:
 - Expert committee member 28th Basic Science Review meeting of BRNS (DAE), Govt. of India, IMMT
 - UGC Advisory Committee Member, NAAC Peer review committee member
 - Advisory committee member of J. Chem. Tracks
 - CSIR Examination Committee member
 - Board of Studies member of various Colleges and Universities
 - Prof. P. K. Sahoo:
 - Members of Society for Polymer Association, India.
 - Members of Royal Society of Chemistry, UK
 - Chairman. Board of Studies member and SRC member of various Colleges and Universities and BPUT, Odisha
 - Expert member UGC, New Delhi.
 - Prof. S. P. Rout, Prof. P. Mohanty, Prof. G. C. Pradhan, Prof. S. Jena, Prof. P. K. Sahoo and Dr. S. K. Badamali as External Examiner for Ph. D defence)
 - International committees:
 - Prof. P.K.Sahoo- Council Member, Asia-Oceania Association on Fire Safety Materials (AOFSM), PR China
 - Editorial Boards: Nil
 - Any others:
 - Prof. S. P. Rout: Reviewer of ACS, Wiley, Elsevier, NISCAIR journals and Journals of Industrial and Engineering Chemistry, American Chemical Society, USA
 - Prof. P. Mohanty, Prof. G. C. Pradhan, Prof. S. Jena and Prof. P. K. Sahoo, Prof. A. Pattnaik and Dr. S. K. Badamali: Subject Expert Odisha Public Service Commission
 - Prof. S. P. Rout, Prof. P. Mohanty, Prof. G. C. Pradhan, Prof. P. K. Sahoo, Dr. J. Behera, Dr. S. K. Badamali, Dr. Bijayalaxmi Jena and Dr. A. K. Behera: Odisha Chemical Society
 - Prof. P. Mohanty: Reviewer of International Journal of Chemical Kinetics, Indian Journal of Chemistry, Journal of Indian Chemical Society, Colloidal and Interface Science.
 - Prof. S. Jena and Prof. P. K. Sahoo: Reviewer of ACS, Wiley, Elsevier and NISCAIR journals
 - Dr. S. K. Badamali: Reviewer of ACS, Elsevier and RSC journals
- 27 National recharging strategies (UGC, ASC, Refreshers/orientation programs, workshops, training programs and similar programs):
- Prof. S. Jena:
 1. Attended an International conferences) AOM- 2010) at CIPET, Bhubaneswar during February 20 – 22, 2010, Chaired a session and delivered an invited talk

- on “Electrochromism and smart drug delivery systems” during the conference.
2. Delivered an invited lecture in a national seminar at Dr. L.B (P.G.) College, Visakhapatnam on “Asymmetric Synthesis using main group organometallics involving B & Zn “during February 18 -19, 2010.
 3. Attended a national conference on “Scholarly Communication & Dissemination in Web Environment” held on 17 May, 2010 in the crowel Hotel, Bhubaneswar and delivered an invited lecture on the theme.
 4. Attended a National Seminar on “Water–Technology: Solutions for current Analytical Challenges ” on 07.06. 2010 at Bhubaneswar.
 5. Attended INDO–US Summit on Higher Education held at Grant Hyat (Mumbai) during July 30 – August 1, 2010 as University delegate.
 6. CoOrganized a National Seminar as Chairman of Technical Committee of OMCA – 2011 at KIIT University during February 26 – 28, 2011 (Jointly organized by Utkal University & KIIT University).
 7. Delivered a lecture as Chief Speaker in a UGC – Sponsored National Seminar at Khallikote (Auto.) College, Berhampur on “Recent Trends in Chemical Sciences & Technology ” during March 29 – 30, 2011.
 8. Delivered an invited lecture as guest of honour in UGC – Sponsored National Seminar “ Material Chemistry & Catalysis – MCC III” on 27.03. 2011 and delivered a lecture on “Asymmetric Synthesis ”.
 9. Attended Waters (India) national seminar on 01.06. 2011 at Hotel Swosti (Premium), Bhubaneswar.
 10. Attended a national seminar on “EU-Acting together to promote research & innovation cooperation with India “on 23.06. 201 at Hotel Trident, Bhubaneswar.
 11. Attended a national seminar and a regional conference of OCS at GIACR, Rayagada on 23.10. 2011 on: Recent Trends in Industrial Waste Management “(served as Vice President of OCS for 2011).
 12. Delivered an invited lecture in a national seminar at G.M. (Auto.) College, Sambalpur on “Recent Trends in Mat. Chemistry “ on 06.11. 2011 on the topic “Electrochromics & Smart drug delivery materials” as Chief Speaker.
 13. Attended a national seminar on “ New Frontiers in Chemical Research ” (NFCR- 2011) at Acharya Nagarjuna University, Nagarjunanagar, Dist- Guntur (A.P) on November 19 and delivered as invited talk as Chief Speaker.
 14. Attended a workshop on “ Higher Education & research opportunities in North American Universities ” organized by OSA Utkal University on 22.12. 2011.
 15. Attended Silver Jubilee Annual Conference of OCS and national Conference on “Molecule” at Sambalpur University, Jyoti Vihar during December 24–26, 2011 (My student D.K. Ray presented a paper OP43).
 16. Attended the 99th session of ISCA at KIIT University during January 3-7, 2012- Chaired a session of “ Young Scientist Award Lecture ” and chaired oral comm.. session and further acted as a member of Jury for selection of best posters at the ISCA.
 17. Delivered an invited talk at NMIT, Bhubaneswar on the occasion of celebration of IYC- 2011 on 30.12. 2011.
 18. Delivered an invited talk on “Green Chemistry for sustainable Development” in a UGC-sponsored national seminar at Seemant College, Jharpokharia, Mayurbhanj on 05.03. 2012.

19. Attended DST- PURSE sponsored National seminar on "Frontiers in Chemical Sciences" on 28.03. 2012 at Utkal University, Vani Vihar.
 20. Attended INDO- US workshop at Hotel May Fair during April 5-6, 2012 organized by USIEF Regional Office, Kolkata.
- Prof P. K. Sahoo:
 1. International Conference on "Advanced Polymeric Materials" CIPET, BBSR, Feb. 19-22, 2010, Presented an Invited Talk.
 2. National Seminar on "Nanomaterials" GEC, BBSR, March 20, 2010. Presented an Invited Talk and Chaired a Session.
 3. National Seminar on "Materials Chemistry & Catalysis" N.O.Univ.,Baripada, April 3-4, 2010. Presented an Invited Talk and Chaired a Session.
 4. National Seminar on "Industrialisation induced Environmental Crisis & its Cure" Berhampur Univ., Dec. 28- 29, 2010. Chaired a Session.
 5. Annual Conference of OCS and National Conference at N.I.T., Rourkela, got Best paper Prof. Dayanidhi Patnaik Award during December 24 – 26, 2010 (My student P S Gils presented a paper).
 6. National Seminar on "Organometallic Compounds & Applications" KIIT Univ., BBSR, Feb 26-28, 2011.
 7. Chief Speaker in a National Seminar on "Nanoscience & its Applications" at Chitalo College, Jajpur on Oct. 12-13, 2010.
 8. Chief speaker in International Year of Chemistry celebration on 14th December,2011 at P.N.Auto. College, Khurda,Odisha.
 9. Silver Jubilee Annual Conference of OCS and national Conference on " Molecule " at Sambalpur University, Jyoti Vihar during December 24 – 26, 2011 (My student Mamata Sahoo presented a paper).
 10. Chief speaker in International Year of Chemistry celebration on 30th December,2011 at N.M. Engineering College, Bhubaneswar, Odisha.
 11. Attended the 99th session of ISCA at KIIT University during January 3 -7, 2012.
 12. Chief Guest in UGC sponsored National Seminar on Plastic waste: A global environmental threat and its minimization on 10-11 Jan.2012 at B.B. Mahavidyalaya, Chandikhole, Jajpur.
 13. Invited Talk in a National Seminar on "Safe and Environment friendly Food Additives and Dyes" on 2-3 February,2012 at Hijli College, Kharagpur.
 14. Chief Speaker in a National Seminar on "Nuclear Sciences & its applications" on 5-6 February, 2012 at Dharmasala College, Jaraka, Jajpur.
 15. Invited Talk in International Conference on "Advanced Polymeric Materials" at CIPET, Ahmedabad, Feb. 9-11, 2012.
 16. Invited Talk in a National Seminar on "Environmental crisis and its solution" on 6th March,2012 at Vidyasagar University, Medinipur, W.B.
 17. Invited Talk in a Seminar on "Green Chemistry & its Applications" on 18th March, 2012 at S.B. Womens' College, Cuttack.
 18. Chief Guest & Invited Talk in a National Seminar on "Environment Pollution by Polymers/Plastics" on 25th March,2012 at Bhograi College, Bhograi, Balasore.
 19. Invited Talk in a Seminar on "Perspectives of Nanoscience & Technology" on 18th April, 2012 at B.J.B.Auto. College, Bhubneswar.
 20. Invited Talk in a National Seminar on "Environment in 21st Century: Green

- Nanotechnology” on 22-23 April, 2012 at Kendrapara Auto. College, Kendrapara.
21. Chief Guest & Invited Talk in a National Seminar on “Advances in Chemical Sciences” on 3 March, 2012 at Dhenkanal Auto. College, Dhenkanal.
 22. Invited Talk in a National Seminar on “Green Chemistry: Solution to Environmental Crisis” on 13-14 October, 2012 at Berhampur University.
 23. Attended and Chaired a session in the 15th Odisha Bigyan Congress of ISCA at Geology Dept, Utkal University during 18-19 Oct., 2012.
 24. Prof. P. K. Sahoo Delivered a talk in Refreshers Course held at Academic Staff College, Utkal University on 19th Dec 2011.
 25. Resource person at MHRD-Refresher Course of Guru Ghasidash Central University Chhattisgarh-2015.
 26. Resource person at MHRD-Refresher Course of University of Ranchi-2015.
- Prof. G. C. Pradhan:
 1. Delivered a talk in Refreshers Course held at Academic Staff College, Utkal University on 29th Dec 2011
 - Prof. P. Mohanty:
 1. Delivered a talk in Refreshers Course held at Academic Staff College, Utkal University on 19th Dec 2011.
 - Dr. S. K. Badamali:
 1. Delivered two lectures on “Fundamental of IR Spectroscopy” and “The four quantum numbers” in UGC-Sponsored Refreshers course in chemistry held at Dept. of Chemistry, Utkal University on 6th Dec 2011 and 10th Dec 2011 respectively.
 2. Young Scientist lecture, ‘Nanoporous solids in green Chemistry’ National Seminar on Frontiers in Recent Chemical Research, Nov. 26-27, 2011, Berhampur University, Odisha.
 3. Attended, International Year of Chemistry Celebration, Dec. 9, 2011, Utkal University, Bhubaneswar, Odisha.
 4. Co-author (Oral presentation: Synthesis and characterization of cobalt containing mesoporous SBA-15 molecular sieves), Silver Jubilee Annual Conference, Orissa Chemical society and National seminar on Molecule, Dec. 24-26, 2011, Sambalpur University, Jyotivihar, Odisha.
 5. Attended the national conferences on Organometallic Compounds and their Industrial Application (OMCA- 2009) at KIIT University BBSR, During Feb. 26-28 2011.
 6. Attended the 24th Annual conference of Orissa Chemical Society and National Seminar on “Smart molecules” Dec. 25-26, 2010 at Apex institute of Technology & management, Bhubaneswar.
 7. Delivered two lectures on Fundamental of Catalysis and Nanoporous Solids in Green Chemistry in Topic: “Catalysis in Chemistry” of Refreshers Course held at Academic Staff College, Sambalpur University on 4th Feb 2012.
 8. Attended, Odisha Bigyan Academy, Oct. 18-19, 2012, Utkal University.
 9. Attended, 99th Indian Science Congress, Jan 3-7, 2012, KIIT University, Bhubaneswar, Odisha.
 10. Attended, National Seminar on Frontiers in Chemical Sciences, March 28, 2012, Utkal University, Bhubaneswar, Odisha.
 11. Delivered two lectures in Refreshers Course held at Academic Staff College,

Utkal University on 21st Aug 2014

12. One lecture on "Equipping College Teachers as Generalist" in Orientation Programme held at Directorate of Distance Course (DDC), Utkal University on 10th Feb 2015
 13. Delivered two lectures on Nuclear Magnetic Resonance and Fundamentals of IR Spectroscopy in UGC-Sponsored Refreshers Course held at Academic Staff College, Sambalpur University on 23rd Jan 2013
 14. Delivered two lectures on "Recent Advances in Chemical Science" in UGC-Sponsored Refreshers Course held at Dept. of Chemistry, Utkal University on 20th Feb 2013.
- Dr. J. Behera:
 1. Attended the national conferences at KIIT University BBSR, During Feb. 26-28 and 2009 and 2011, Jointly organized by UU. And KIIT University, Topic- Organometallic Compounds and their Industrial Application (OMCA- 2009 & OMCA-2011).
 2. Attended DST-Purse Sponsored National Seminar on frontiers in Chemical sciences on 28/03/2012 at Detp. Of Chemistry, Vani Vihar.
 3. Attended the Workshop on "Finance management and Audit sexsitisation in scientific organizations" for women scientists sponsored by D.S.T. Room 15-20 Feb 2010 at XIM, Bhubaneswar.
 4. Attended the 24th Annual conference of Orissa Chemical Society and National Seminar on "Smart molecules" held on 25th and 26th ec 2010 at Apex institute of Technology & management, Bhubaneswar.
 - Dr. B. L. Jena:
 1. Attended, 99th Indian Science Congress, Jan3-7, 2012, KIIT University, Bhubaneswar, Odisha.
 2. Attended DST-Purse Sponsored National Seminar on frontiers in Chemical sciences on 28/03/2012 at Detp. Of Chemistry, Vani Vihar.
 3. Attended the national conference on Organometallic Compounds and their Industrial Application (OMCA-2011) at KIIT University BBSR, During Feb. 26-28 2011.
 4. Attended, Silver Jubilee Annual Conference, Orissa Chemical society and National seminar on Molecule, Dec. 24-26, 2011, Sambalpur University, Jyotivihar, Bhubaneswar, Odisha.
 5. Attended, International Year of Chemistry Celebration, Dec. 9, 2011, Utkal University, Bhubaneswar, Odisha.
 6. Oral presentation -Tuning the Photocatalytic Performance of PlasmonicNanocomposite Driven in Visibe Light, 16thOdisha bigyan academy, IOP, BBSR, Dec,2013.
 7. Attended National Symposium on Recent Trends in Chemical Sciences, at Dept of Chem , Utkal University om 28th March,2014.
 8. Poster presentation -Photoelectrocatalytic oxidation of NADH by VisibleLight Driven PlasmonicNanocomposites,in 84th Annual Session of the National Academy of sciences, at J. N. V. University, Jodhpur on 4-6 Dec 2014.
 9. Co-author of Paper presented in Orissa Chemical Society Conference held at U.N (Auto) College of Science and Technology, Adaspur,Cuttack, Dec 2014.
 10. Participated in UGC sponsored orientation programme- human values in education , 18th Nov-15th Dec 2010.

11. Participated in UGC sponsored Refresher course- Recent Trends in Chemical Sciences, 29th Nov-19th Dec 2011
12. Participated in Faculty Development Programme 30th Dec2011- 7th Jan 2012
- Dr. A. K. Behera
 1. Development and characterization of low cost jute reinforced completely biodegradable nano-bio composites” Ajaya K. Behera, R. Samal, Sridevi A.N., R. Sen, and B. Adhikari, RAFMM 2013, Municipal college, Rourkela, Odisha, India (National conf.)
 2. “Bio-filler reinforced thermoplastic starch composites: Fabrication and characterization” Ajaya K. Behera, Sridevi A.N., R. Sen, and B. Adhikari, APM 2014, CIPET, Bhubaneswar, Odisha, India (International conf.)
 3. “From agricultural crops to mechanically strong green composite: A novel material of new era” Ajaya K. Behera, Sridevi A.N., R. Sen, and B. Adhikari, RETICS 2014, Sambalpur University, Burla, Odisha (National Conf.).
 4. “Lignocellulosic fiber reinforced soy composite: An alternative to plastic product” Ajaya K. Behera, R. Sen, and B. Adhikari, IC-IACPT 2015, Berhampur University, Berhampur, Odisha (International conf.).
- Mr. H. K. Kisan
 1. A cluster of topical meetings on Current Trends in Condensed Matter Physics(CTCMP-2015).19th-22nd February, 2015 in School of Physical Science,National Institute of Science Education and Research (NISER), Bhubaneswar. (National Conf.)
- 28 Students projects :
 - Percentage of students who have done in-house projects including interdepartmental projects: M.Phil students (100%) do in-house project in the department
 - Percentage of students doing projects in collaborations with other universities/industry/institutes: 3.6% (Bapuji Mohapatra as summer project student in IGCAR Kalpakkam)
- 29 Awards/recognitions received at the national and international level by Faculty:
 - Prof. P. K. Sahoo: Pathani Samanta Chandra Sekhar Award for outstanding research in Physical Sciences-2010.
 - Dr. S. K. Badamali:
 - Young Scientist Award by Chemical Research Society of India-2011.
 - Best poster award in “National seminar on Recent Advances in Material Science” in VSSUT Burla, Sambalpur, S. Barik and S. K. Badamali on Aug-2013
 - Dr. Ajaya Kumar Behera:
 - Third National Award for Technology Innovation in Green Polymeric Materials and Products by DCPC, Govt. of India-2013.
 - Best poster award in International Conference on “Effect of nanoclay as reinforcement filler on the properties of jute composites” A. K. Behera, S. Avancha, R. K. Basak, R. K. Sen, and B. Adhikari, MACRO 2010, IIT Delhi, India.
- 30 Seminar/Conferences/Workshops organized and the source of funding (National/International) with details of outstanding participations, if any:
 1. National conferences at KIIT University BBSR, During Feb. 26-28 2011, Jointly

organized by UU. and KIIT University, Topic- Organometallic Compounds and their Industrial Application (OMCA-2011)

2. Celebration of International Year of Chemistry on 9th Dec 2011
3. Annual Alumni meet 2012, Dept. of Chemistry, Utkal University.
4. Annual Alumni meet 2013, Dept. of Chemistry, Utkal University.
5. International conferences at KIIT University BBSR, During Feb. 2013, Jointly organized by UU. and KIIT University, Topic- Organometallic Compounds and their Industrial Application (OMCA-2013)
6. DST-PURSE sponsored national seminar on “Frontiers in Chemical Science” 2014 organized by Dept. of Chemistry, UU
7. National Seminar on Advancement in Materials and Coordination Chemistry (AMCC)-2015 (UGC-DSA Sponsored)-25th MARCH 2015.
8. Annual Alumni meet 2015, Dept. of Chemistry, Utkal University.

Special Lectures By:-

Prof. Rama Kant, DU, NewDelhi

Prof. K. C. Kumara Swamy, UoH, Hyderabad

Prof. A. K. Singh, IIT, Bhubaneswar

Prof. T. Pal, IIT Kharagpur

Prof. D. Chand, IIT Madras

Dr. A. Saktivel, Delhi University

Dr. S. Perucheralathan, NISER Bhubaneswar

Dr. A. Srinivasan, NISER Bhubaneswar

Dr. S. N. Sahoo, Berhampur University

Dr. B. Bhoi, IMMT, Bhubaneswar

Dr. V. Krishnan, NISER, Bhubaneswar

Dr. B. K. Jena, IMMT, Bhubaneswar

Dr. L. D. Rout, BU, Berahmpur

Dr. P. Mishra, IMMT Bhubaneswar

Dr. R. K. Behera, NIT Rourkela

- 31 Code of Ethics for research followed by the departments : Yes, As per university policy.
- 32 Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
2014-15					
M.Sc.	729	22	06	--	--
M.Phil	46	09	01	--	--
Ph.D.	26	05	04	--	--
2013-14					
M.Sc.	673	11	17	100	88.2
M.Phil	34	01	09	100	100
Ph.D.	36	04	02	--	--
2012-13					
M.Sc.	604	17	11	100	100
M.Phil	34	02	08	100	100
Ph.D.	32	02	01	--	--

2011-12					
M.Sc.	434	08	20	94%	96%
M.Phil	39	04	06	73%	75%
Ph.D.	24	02	04	--	--
2010-11					
M.Sc.	434	08	20	94%	96%
M.Phil	39	04	06	73%	75%
Ph.D.	24	02	04	--	--

33 Diversity of students:

Name of the Programme	% of students from the same university	% of students from the other university	% of students from universities within the country	% of students from Other countries
M.Sc.	--	--	--	--
M.Phil.	75	25	--	--
Ph.D.	70	30	--	--

34 Exmination: How many students have cleared civil services and defence services examination, NET, SET, GATE and other competitive examination. Give detail categorywise

Competitive Examination	Civil Service	Defence Service	NET	GATE	Other Competitive examinations
No. of students 2014-15	02 OPSC	--	07	09	01
2013-14	--	--	03	04	01
2012-13	--	--	03	05	01
2011-12	--	--	04	05	01
2010-11	--	--	04	05	01

35 Student progression:

Student progress	UG to PG	PG to M.Phil	PG to Ph.D	Ph.D. to Post-Doctoral	Campus Selection	Enterpreneurs
% against enrolled	--	20%	70%	10%	--	--

36 Diversity of Staff:

Percentage of faculty who are graduates	
Of the same university	50%
From other university within the state	33%
From universities from other states	17%
From universities outside the country	--

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

- 01 (Awarded Ph.D.)
- 01 (One lecturer continuing Ph.D.)

38 Present details of departmental infrastructural facilities with regard to

- Library: 01
 - Text Books, Reference Books: 2500
 - No. of journals subscribe annually: 04 and all major e journals through INFLIB NET
 - Internet facilities for staff and students: Available
 - Total number of class rooms: 05
 - Classs rooms with ICT facility: 01
 - Students' laboratories: 03
 - Research laboratories: 06
 - Instrumentation room: 01
- 39 List of doctoral, post-doctoral students and Research Associates:
- (a) From the host institution/University:- 14
1. Dr. Jayanta Das
 2. Dr. R. K. Samal
 3. Dr. C. R. Bhanja
 4. Dr. Sadhna Mohanty
 5. Dr. S. Mishra
 6. Dr. S. R. Panda
 7. Dr. Swopna Mishra
 8. Dr. K. Rout
 9. Dr. D. Roy
 10. Dr. D. Hariprasad
 11. Dr. A. Das
 12. Dr. D. Das
 13. Dr. N. Sahoo
 14. Dr. B. L. Mohanty
- (b) From other institution/universities:- 04
15. Dr. C. Rath
 16. Dr. P. J. Jandas
 17. Dr. S. K. Sahoo
 18. Dr. R. Dwivedi
- 40 Number of post graduate students getting financial assistance from the university:

No. of Students	Providing Institute
61	Institute of Mathematics Govt. of
02	Odisha
05	POSCO
22	DST-INSPIRE
17	UGC-University Rank Holder
25	Medhabrutty (State Fellowship)
	Prerana (State Fellowship)

- Was any need assessment exercise undertaken before the development of new
- 41 programmes? If so, highlight the methodology: Yes
- CBCS and Ph.D. course work was discussed in the Board of Studies meeting.
 - M.Sc. Tech (Mat. Sc. and Eng.) Programme is jointly offered by the Department of Chemistry & CIPET, Bhubaneswar. The inception of the programme was in 2010. And it was designed, developed with adequate

assessment both at Utkal University and CIPET level.

42 Does the department obtain feedback:

- Faculty on curriculum as well as teaching-learning evaluation: Yes
Faculty members constantly engaged in improving the syllabus and examination, evaluation pattern/mode through departmental teachers' council meeting. The decisions of DTC meeting have been implemented sincerely.
- Students on staff, curriculum as well as teaching-learning evaluation and how does the department utilize the feedback? Yes
Faculty members voluntarily get feedback from the students to improve the teaching/learning as well enriching the library facilities.
- Alumni and employers on the programmes offered and how does the department utilize the feedback? Yes
The feedback of alumni is gathered in its annual met and steps have been taken to address them by the department.

43 List of the distinguished alumni of the department (Maximum 10)

1. Dr. Hrushikesh Panda, IAS (Retd.) Former Secretary, SC & ST development department, Government of India.
2. Dr. Achyuta Samanta, Social Activist and Founder member, KIIT & KISS, Bhubaneswar.
3. Benudhar Mishra, IAS, Government of Odisha.
4. Dr. Ratikanta Mishra, S.O.G. Chemistry Division, BARC, Mumbai.
5. Prof. Amar K. Mohanty, Professor, Premier's Research Chair in Biomaterials & Transportation, University of Guelph, Canada
6. Dr. Bhabani Sankar Satapathy, Associate Prof., Centre for Polymer materials, IIT, Delhi.
7. Mr. Suvendu Nayak, OAS-I (PS to Minister), Government of Odisha.
8. Dr. Akshya Pattanaik, IFS, DFO Khordha
9. Mr. Satyabrata Mishra, Scientist, IGCAR, TN, India
10. Dr. Akhila Kumar Sahoo, University of Hyderabad

44 Give details of Students Enrichment Programmes (Special lecture, workshops / seminars involving external experts):

1. National conferences at KIIT University BBSR, During Feb. 26-28 2011, Jointly organized by UU. and KIIT University, Topic- Organometallic Compounds and their Industrial Application (OMCA-2011)
2. Celebration of International Year of Chemistry on 9th Dec 2011
3. Annual Alumni meet 2012, Dept. of Chemistry, Utkal University.
4. Annual Alumni meet 2013, Dept. of Chemistry, Utkal University.
5. DST-PURSE sponsored national seminar on "Frontiers in Chemical Science" 2014 organized by Dept. of Chemistry, UU
6. National Seminar on Advancement in Materials and Coordination Chemistry (AMCC)-2015 (UGC-DSA Sponsored)-25th MARCH 2015.
7. Annual Alumni meet 2015, Dept. of Chemistry, Utkal University.

Special Lectures By:-

Prof. Rafael Luque, University of Cordova, Spain

Prof. Ajaya Dalai, University of Saskatchewan, Canada

Prof. Rama Kant, DU, New Delhi

Prof. K. C. Kumara Swamy, UoH, Hyderabad

Prof. A. K. Singh, IIT, Bhubaneswar
 Dr. B. Bhoi, IMMT, Bhubaneswar
 Dr. V. Krishnan, NISER, Bhubaneswar
 Dr. B. K. Jena, IMMT, Bhubaneswar
 Dr. L. D. Rout, BU, Berahmpur
 Dr. P. Mishra, IMMT, Bhubaneswar
 Dr. R. K. Behera, NIT, Rourkela

45 List the Teaching Methods adopted by the Faculty for different Programmes:

- Lecture-cum-discussion
- Power point presentation
- Group discussion
- Demonstrative method
- Blackboard-chalk method

46 How does the department ensure the programmes objectives are constantly met and learning outcomes are monitored:

Proper monitoring of success of students by HOD

- Pass out in M.Sc. - 100%, M.Phil.- 100%
- NET/GATE/BARC/TIFR- 32%
- OPSC- 2% and Other-2%

Learning outcomes are monitored by Semester exam, Mid-term exam, Class test and seminar presentation

47 Highlight the Participation of student and Faculty in extension activities:

- Faculty and students are engaged in Swachha Bharat Abhiyan
- Observing international year of chemistry (2011)
- Observing festivals like Ganesh Puja, Saraswati puja, Teachers day, etc in the departments
- Cultural activities
- Participation of students in Sports and games
- Visit of school children in the laboratory
- Alumni meet

48 Give details beyond scholarly activities of the department:

Participation of Faculty	Participation of Students
Faculties are involved in Departmental assignment, University assignments, Participated in Teachers Council	Essay competitions organized at state/national level
Guide students to visit other dept. and institutes	Debate competition and visiting other dept. and institutes to see their research and instrument facilities.
	Participation in workshop, seminar

49 State whether the Programme/Department is accredited/ graded by other agencies:Yes

- DSA-I (2007-2012)-UGC
- DSA-II (2013-2018)-UGC
- DST-PURSE (2010-2014) programme, DST
- DST-SERC Fast track Project (2008-2011): PI: Dr. S. K. Badamali
- UGC project (2012-2014): PI-Dr. B. L. Jena

- 50 Briefly highlight the Contributions of department in generating new knowledge, basic or applied. Research work and publications have taken place especially in the following fields:

1	Prof. S. P. Rout	30 th Nov 2010	Environmental Chemistry
2	Prof. P. Mohanty	31 st Aug 2011	Co-ordination Chemistry of transition metal compounds
3	Prof. G. C. Pradhan	29 th Feb 2012	Co-ordination Chemistry
4	Prof. S. Jena	31 st Aug 2014	Organic synthesis
5	Prof. P. K. Sahoo	Continuing	Polymer composite and hydrogel
6	Dr(Mrs) J. Behera	Continuing	Co-ordination Chemistry of transition metal compounds
7	Dr. S. K. Badamali	Continuing	Heterogeneous catalysis
8	Dr(Mrs) B. Jena	Continuing	Photo and Elctro catalysis
9	Dr. A. K. Behera	Continuing	Nano-bio composite and Polymer synthesis
10	Mr. H. K. Kisan	Continuing	Theoretical Organic Chemistry

- 51 Detail five major strength, weakness, opportunity, and challenges (SWOC) of the department:

Our Strength

- High demand of application for admission into M.Sc. course (1000 application form for 28 M.Sc. seat)
- Best students from different regions of our state
- High quality of publication in national/ international journals as evident from no. of publication and impact factors
- Library containing 2500 no. of books and journals for study and research purpose
- Students selected in national institute like IITs, NITs, NISER, ISER, IISc, TIFR, BARC, IGCAR etc.,
- Competitive and transparent admission policy
- Committed/Dedicated and Teaching staff

Our Weakness

- Inadequate number of teaching and supporting staff
- Lack of infrastructure
- Few number of research scholars funded from government agencies
- Insufficient financial support for setting up State of art laboratory

- Shortage of smart class rooms

Our Opportunities

- To produce quality human resource
- Collaboration with national and international agencies
- To increase the Inter disciplinary research programmes
- Inclusive social relevant outreach programmes
- To build the students socially, morally, ethically rich so that they will serve the nation in better way

Our Challenges

- To become a centre of excellence in both research and teaching
- To take the leadership in basic science training in the state/country
- To increase the success rate of students to 100% in national eligibility test (NET, GATE)
- To participate in international programmes with bigger role
- To upgrade the department as Centre for Advanced Studies in thrust area

52 Future Plan of the Department:

- Producing high quality researchers for R&D
- Digitalization of the department activities
- To set up state up art laboratories for research
- Inspire young faculties for better exposure
- Collaboration with national and international institute/ research lab/industries to carry forward the research.

Annexure – I

- Publication in 2010:

1. “Comparative Delivery of Diltiazem Hydrochloride through Synthesized Polymer: Hydrogel and Hydrogel Microspheres,” D. Ray, P. S. Gils, G. Mohanta, R. Manavalan, P. K. Sahoo, *J. Appl. Polym. Sci.*, 116(2), 959, 2010. [IF: 1.64]
2. “Designing of silver nanoparticles in gum Arabic based semi-IPN hydrogel,” P. S. Gils, D. Ray, P. K. Sahoo, *Intl. J. Biological Macromolecules*, 46,237, 2010. [IF: 3.096]
3. “Co(III) complex mediated Microwave Assisted Synthesis of PAN,” T. Biswal, R. Samal and P. K. Sahoo, *J. Appl. Polym. Sci.*, 117(3), 1837, 2010. [IF: 1.64]
4. “Synthesis of a biodegradable polyacrylonitrile/sodium silicate nanocomposite fire retardant” R. Samal and P. K. Sahoo, *Indian J. Chem. Technol.* (NISCAIR), 17, March, 139, 2010. [IF: 0.58]
5. “A quantitative HPLC determination of itaconic acid residuals in polymer hydrogels,” P. S. Gils, D. Ray, P. K. Sahoo, *Analytical Chemistry*, 2010- In Press.
6. “Controlled release of doxofylline from biopolymer based hydrogels,” P. S. Gils, D. Ray, P. K. Sahoo, *Am. J. Biomed. Sci.*, 2(4), 373, 2010. [IF: ICV:6.25]
7. “Complex-mediated microwave-assisted synthesis of polyacrylonitrile nanoparticles,” T. Biswal, R. Samal and P. K. Sahoo, *Nanotechnology, Science and Applications*, 3, 77, 2010.
8. “Sensitive Hydrogels as controlled drug delivery devices,” D. Ray, P. S. Gils, G. Mohanta, R. Manavalan, P. K. Sahoo, *The Pharma Review*, Jan-Feb, 146, 2010.
9. “Oil content & fatty acid composition of *Jatropha Curcas* seed over Indian domain & Biodiesel preparation,” S. Pradhan, L. C. Meher, S. N. Naik and P. K. Sahoo, *JLST*, 42(1), Jan-Mar, 19-23, 2010.
10. “Estimation of Toxic Phorbol Ester in *Jatropha Curcas* oil, cake & biodiesel,” S. Pradhan, N. K. Sahoo, S. N. Naik, P. K. Sahoo, *Asian J. Chem*, 22(5), 4069, 2010. [IF: 0.355]
11. “Toxic Phorbol ester in *Jatropha* oil, cake & biodiesel,” S. Pradhan, N. K. Sahoo, R. C. Pradhan, L. Das, S. N. Naik, P. K. Sahoo, *SAARC Oils & Fats Today*, 10-13, March, 2010.
12. “Physico- Chemical and Bacteriological parameters in different sources of Drinking water in the town planning area of Balasore,” U. K. Biswal, J. Behera, N. K. Bhuyan and N. Pattnayak, *J. T. R. Chem.* 17(2), 6, 2010. [IF: 0.63]
13. “Inorganic Anions in drinking water collected from different sources of Balasore town planning area,” N. Pattnayak, J. Behera and U. K. Biswal, *Int. J. of Environment and Pollution* 30(6), 460, 2010. [IF: 0.626]
14. “Studies on the potential of oscect: A formulated Botanical Product against *Pyricularia grisea* incitant of Rice blast disease.” S. Upadhyaya, J. Behera and S. N. Tiwari, *J. App. Zool. Res.* 21(1), 79, 2010.
15. “Mechanistic studies of substitution reaction of trans-(diaqua) (N,N-ethylene-bis-salicylamide) chromium(II) ion.” P. Mohanty, S. C. Dash, K.

- C. Behera, N. N. Dash, R. R. Jha, *J. Indian Chem. Soc.* 87, 1101, 2010. [IF:0.251]
16. "Ambient air quality status in Choudwar area of Cuttack district" P. K. Bhuyan, P. Samantray and S. P. Rout, *Int. J. Env. Sci.* 1(3), 343, 2010.
 17. "Optimization for the chemical synthesis of conducting poly(*m*-aminophenol) in HCl using ammonium persulfate" P. Kar, A. K. Behera, N. C. Pradhan, and B. Adhikari *High Performance Polymers*, 22(4), 428, 2010. [I.F: 1.286]
- Publication in 2011:
 18. "Air quality index in Balasore area" M. K. Dash, B. Mishra and S. P. Rout, *ICFAI J. Envi. Sci.* 5(1), 26, 2011.
 19. "Assessment of quality of ground water and surface water Choudwar area of Cuttack district" S. P. Rout, *Asi. J. Res. Chem.* 4(80), 1214, 2011.
 20. "Ambient air quality status in the twin cities of Bhubaneswar and Cuttack," B. N. Bhol, S. K. Mohanty and S. P. Rout, *IUP J. Envi, Sci.* 5(3), 18, 2011.
 21. "Microwave-Assisted Preparation of Biodegradable Water Absorbent Polyacrylonitrile/Montmorillonite Clay Nanocomposite," P. K. Sahoo, R. Samal and T. Biswal, *J. Nanotechnology*, 2011, 1, 2011. [IF: 1.611]
 22. "Towards the understanding the selective oxidation of lignin: Co(salen)/SBA-15 catalysed oxidation of β -O-4 phenolic dimer under microwave irradiation." S. K. Badamali, R. Luque, J. H. Clark, S. W. Breeden, *Catal. Commun.* 12, 993, 2011. [IF:3.32]
 23. "Kinetics and mechanism of oxidation of L-Cysteine and DL- Methionine by morpholiniumchlorochromate in aq. Acidic medium." B. Mohanty, J. Behera, S. Acharya and A. K. Pattanaik, *J. Indian chem. Soc.* 88, 1561, 2011. [IF:0.251]
 24. "Kinetics and Mechanism of the interaction of Hexaaquachromium (III) with L-Dopa in aqueous medium. Comparative antiparkinsonian studies" P. Mohanty, D. K. Baral, S. S. Rout, J. Behera, S. C. Sai, *Trans-Met. Chem.* 36, 231, 2011. [IF:1.402]
 25. "Reactivity of aquadiethylenetriamineplatinum(II) ion with disulfide moiety cysteine: A kinetic and mechanistic approach." P. Mohanty, T. Swain, *Phosphorus, Sulfur and silicon and the related elements*, 186, 1702, 2011. [IF:0.827]
 26. "Synthesis and characterization of product on reaction between trans-dichlorido-bis-(ethylenediamine)cobalt(III) L-cystine." P. Mohanty, T. Swain, *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 41, 491, 2011. [IF:0.504]
 27. "Kinetics and mechanism of the reaction of ranitidine hydrochloride with trans(diaqua) (N, N'-ethylene-bis-salicylamide)chromium(III) and hexa-aquachromium(III) ion; a comparative study." P. Mohanty, S. C. Dash, and N. N. Dash, *Indian Journal of Chemical Technology*, 18, 132, 2011. [IF:0.58]
 28. "Synthesis, characterization and catalytic activity of neat and aluminium supported trans-(diaqua) (N, N'-ethylene-bis-salicylamide)chromium(III) a comparative study." P. Mohanty, N. N. Dash, P. K. Satpathy, S. C. Dash, *Reac. Kinet. Mech. Cat.* 102(2), 367, 2011. [IF:0.983]

29. "Electron transfer reaction from sulfur containing amino acid L-Cystine to pyridiniumchlorochromate in aqueous and micellar medium." P. Mohanty, S. Senapati, S. P. Das, A. K. Patanaik, *Poland Journal of Chemical Technology*, 13(2), 6, 2011. [IF:0.474]
30. "Synthesis, characterization and mechanism of trans-dichlorido-bis-(ethylenediamine)cobalt(III) with L-cystine in presence of chloride." P. Mohanty, T. Swain, *J. Coord. Chem.* 64(17), 3051, 2011. [IF:2.224]
31. "Ultrasonic studies of cis & trans K [Cr(OX)₂(H₂O)₂]₃H₂O in ethylene glycol+H₂O, CH₃OH+H₂O and 2-propanol+H₂O at 298.15 K.," M. Das, S. P. Das, A. K. Patnaik, *International Journal of Teaching and Research*, 18, 31-41, 2011.
32. "On enzymatic NADH-Dependent reduction of Keggin-type 12-tungstoCo (III) in aqueous medium," A. K. Patnaik, P. Mohanty, *E. Journal of Chemistry*, 8, 1152-1157, 2011.
33. "Kinetics and mechanism of electron transfer to pyridiniumchlorochromate (VI) from sulfur containing amino acid, L – cysteine in aqueous and micellar media," S. Senapati, S. Das, P. Mohanty, A. K. Patnaik, *Polish J. Chem. Technology*, 13(2), 6 -10, 2011.
34. "Kinetic and mechanism of oxidation of L-cysteine and DL-methionine by morpholinumchlorochromate in aqueous acidic medium," B. Mohanty, J. Behera, P. Mohanty, S. Acharya, A. K. Patnaik, S. P. Das, *J. Indian Chem. Soc.*, 88, 1561-1566, 2011.
35. "Ultrasonic studies of cis & trans K[Cr(OX)₂H₂O)₂]₃H₂O in ethylene glycol+H₂O, CH₃H+H₂O and 2-Propanol+H₂O at 298.15 K," M. Das, S. Das, and A. K. Patanaik, *Int. J. Teaching & Research Chem.*, 18, 31-41, 2011.
36. "Doping of the processable conducting poly(*m*-aminophenol) with inorganic acids" P. Kar, A. K. Behera, N. C. Pradhan, and B. Adhikari, *Journal of Macromolecular Science, Part B: Physics*, 50(9), 1822, 2011. [I.F: 0.740]
- Publication in 2012:
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Post Graduate Department of
COMPUTER SCIENCE



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department: P.G. DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS
2. Year of establishment: 1990
3. Is the Department part of a school/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters, Integrated Ph.D., D.Sc., D.Litt. etc.):
UG (Integrated MCA*), PG (MCA, M. Sc. (CS)[#], M. Tech.(Computer Science and Engineering)[#], Master of Engineering (Computer Science and Engineering with Specialisation in Knowledge Engineering)
Ph.D., D. Sc.
**5 Years Integrated Self financed Program with option to quit after Graduation (BCA).*
#2Years Self Financed Courses.
5. Interdisciplinary programmes and departments involved:
 - M. Tech (IT) collaboration with Department of Statistics,
 - M. Tech (CS) collaboration with Department of Mathematics.
6. Courses in collaboration with other universities, industries, foreign Institutions, etc. NA
7. Details of programmes discontinued, if any, with reasons: NA
8. Examination system:
 - MCA- Semester and Choice Based Credit System
 - M.Sc.- Semester and Choice Based Credit System
 - Integrated MCA- Semester and Choice Based Credit System
 - M. Tech (CSE)- Semester and Choice Based Credit System
 - M. E (KE) - Semester
 - Ph.D. Course Work- Semester with one elective paper
9. Participation of the department in the courses offered by other departments:
 - (a) The syllabus under CBCS has been developed and following courses are offered
For other Departments (Mathematics, Statistics, Physics, Chemistry) students:
 - i. Programing using C
 - ii. Fundamentals of Computing
 - iii. Data Structure
 - (b) The students of Computer Science department have been given the choice to opt for courses offered by other departments (Mathematics, Digital Electronics, Accounting & Financial Management, English for Communication, Environmental Science etc.)

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

Designation	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	1 - Direct	1
Associate Professors/Reader	3	2 - Direct	4
Asst. Professors/Lecturer	5	2-Direct	2
Others DST-INSPIRE Faculty	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 Research/ Teaching	No. of Ph.D./ M.Phil. students Guided for the last 4 years
Sateesh Kumar Pradhan	Ph. D	Professor & Head	Parallel computing, Neural Network, WSN Mobile communication	30 years	Ph.D-4 M.Tech-7
B.K.Rath	Ph.D.	Reader	Software Engineering	28 years	Ph.D-2
Prafulla Kumar Behera	Ph.D.	Reader	Mobile Ad Hoc Network, Distributed Systems	22 years	Ph.D-3 M.Tech-5
Mrutyunjaya Panda	Ph.D.	Reader	Data Mining	16 years	M.Tech-3
B.N.B.Ray	Ph.D.	Reader	VLSI Algorithms Parallel Algorithms	15 years	Ph.D-1 M.Tech-4
H. Naik	M.C.A.	Lecturer	Database, AI, Internet Technology	8 months	
B. Nayak	M.Tech	Lecturer	Networks, Operating System	2 years	

12. List of senior Visiting Fellows, Adjunct faculty, Emeritus Professors, Visiting Professors

Prof. A.K.Bisoi	Ph.D	Visiting Professor (Retd. Prof., Utkal University)	Fractal Image Processing
Prof. S.K. Udgate	Ph.D	Visiting Professor (Dept of Comp Sc, Central Univ, Hyderabad)	Wireless Sensor Networks

Prof. Rajib Mall	Ph.D	Visiting Professor (Prof., I.I.T. Kharagpur)	Software engineering
Prof B.S.Panda	Ph.D	Visiting Professor (Prof., I.I.T. Delhi)	Algorithmic Graph Theory
Prof Manas R. Patra	Ph.D	Visiting Professor (Reader Berhampur University)	Data Mining, Mobile Agent
Prof Rajendra Sahoo	Ph.D	Visiting Professor (IIIT Hyderabad)	Mobile Computing

13. Percentage of classes taken by temporary faculty/ Visiting Professors, Programme-wise information:

30% classes (M.C.A) by visiting faculty (5 years average)

14. Programme-wise Student Teacher Ratio:

M.CA - 12:1

Ph.D. course work-2:1

15. Number of academic support staff (technical) and administrative staff -

Post	Sanctioned	Filled and actual
Administrative Staff	1	1
Demonstrator	4	3
Laboratory Attendant	0	0
Electrician	0	0
Carpenter	0	0
Instrument Keeper	0	0
Mechanic	0	0
Sweeper	0	0
Peon	1	1
Watchman	0	0

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

Thrust Area	Funding Agency
RCILT (Natural Language Processing)	MIT, Govt of India
Knowledge Engineering	MIT, Govt of India

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

Name of the Project	Funding Agency National	Period	Coordinator	Grant Received
ME(CSE) KE	MIT, Govt of India	2005-12	S. Mohanty	63* lakhs

*Sanctioned 133 lakhs

18. Inter-institutional collaborative projects and associated grants received

- a) National collaboration - Not Available
b) International collaboration - Not Available

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

Name of the Project	Funding Agency National	Period	Coordinator	Grant Received
ME(CSE) KE	MIT, Govt of India	2005-12	S. Mohanty	63* lakhs

*Sanctioned 133 lakhs

20. Research facility/ centre with

- State recognition:
- National recognition: NIELET, Govt of India
Research in the areas of
NLP (RCILT)
- International recognition:

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

22. Publications in

- (a) Research Journal: more than 150 (International, National)

- i. Peer Reviewed Journal-68
- ii. Conference Proceedings-15
- iii. Chapters in Book-7

Average Impact factor: 1.5-3

- (b) Books

- i. Authored:6
- ii. Edited: 2

See **Annexure-A** for detail publication list with sample papers more than 10 citations,

23. Details of patents and income generated: NA

24. Areas of consultancy and income generated : Solid Waste Management (Dr. B.N.B. Ray)

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

- a) Visit to other National Institutions by Faculty members -

Name of the Faculty	Visit to National Institutions
B.N.B Ray	IIT-Madras
B. K Ratha	Sant Gadge Baba Amaravati University – Maharashtra, Yashwant Mahavidyalaya-Nanded, Mahatma Gandhi Mahavidyalaya–Ahmadpur, Nalanda Management and Computer Science College – Aurangabad, Swami Vivekananda Mahavidyalaya – Maharashtra, Dr Baba Saheb Ambedkar Marathwada University – Aurangabad, RTM Nagpur University, AIIMS –New Delhi.

Sateesh Ku. Pradhan	SNDT Woman University, Santa Cruz, Mumbai
P.K Behera	NIT - Rourkela , CIFA - Bhubaneswar
M. Panda	NIT - Rourkela

b) Visit to other International Institutions by Faculty members -

Name of the Faculty	Visit to International Institutions
S.K. Pradhan	King Khalid University, Abha, Saudi Arabia

26. Faculty serving in

a) National committees:

S.K. Pradhan: SRC member, BoS member Utkal University, Sambalpur University, FM University, Ravenshaw University, Khurda Autonomous College, Adaspur College

P.K. Behera: SRC member, BoS member Utkal University, Sambalpur University, G.M. Autonomous College, Ravenshaw University, OITS Member

B.N.B. Ray: BoS member Utkal University, Adaspur College, Khurda Autonomous College, Ravenshaw University,
Session chair in National conference “Trend and Advances in Computing-2013”

M. Panda: Reviewer and Expert member CISP-2012, USDIA, ACCTA -2010
BoS member, Utkal University, C.V.Raman Engineering College
Session Chair in International Conference, track Chair of WICT-2011, 2013, IIIT, Trivandrum, University of Mumbai

b) International committees:

- S.K.Pradhan – Senior Faculty Member – King Khalid University, Abha, Saudi Arabia
- S.K.Pradhan - Reviewer (International Conference in Computer science -2014) at University of Hyderabad.
- P.K.Behera – Technical committee member – (ADCOM)
- M. Panda -
 1. Reviewer of Applied Soft Computing ELSEVIER
 2. Reviewer of Neural Computing and Appl. Springer
 3. Reviewer of Security and Communication Networks, Willey
 4. Reviewer of WSEAS Transaction of Computers
 5. Reviewer of Benthom Science
 6. WICT-2011

c) Editorial Boards:

M. Panda: ACEEE Press USA, Inderscience, IJSDIA

d) Any other (please specify) :

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

Name of the Faculty	Designation	Programme
B.N.B. Ray	Reader	1 Refresher Course in Social Science-2012, ASC Utkal University 2. Workshop on NS2, MATLAB, organized in 2014, Utkal University 3. Tutorial on VLSI Design, organized by VLSI Design Conf 2011 at IIT Madras

- Refresher Course conducted: 2
- Conference/Workshop conducted: 5

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental Projects: 25%
- Percentage of students doing projects in collaboration with Other universities/industry/institute: 75%
(TCS, OCAC, Wipro, NAL, NIC, OPTCL etc.)

29. (a) Awards/recognitions received at the national and international level by Faculty

Sl. No.	Name of the Faculty	Awards/Recognitions received
1	S. K. Pradhan	Visiting Faculty, King Khalid University, Saudi Arab (2006-2011)
2	P.K. Behera	ICIT 2015, Organizing Chair
3	M. Panda	Best Teacher award by NFED Hyderabad in 2014

b) by Doctoral/post doctoral fellows:

c) by Students:

UGC RGNF Fellowship

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

Sl. No	Seminars/Conferences/Workshops	National/International	Duration	Funding source	Invited Speakers
1	Trend & Advances in Computing	National Conference	9-11-13	UGC	Rajib Mall, Prof in Comp Sc (IIT Kharagpur) Manas R. Patra, Prof in Comp. Sc (Berhampur University)
2	MATLAB Workshop	National	15.9.13-17.9.13	Utkal Univ	Arbinda Routray, Prof in Electrical Engg. (IIT Kharagpur)
3	NS2 Workshop	National	2013	Utkal Univ	Rajib Mall, Prof in Comp Sc (IIT, Kharagpur) Ajit Nayak, Associate Professor in Comp. Sc. SOA UNIVERSITY

4	Microsoft Window Blended Learning Workshop	National	26.9.14	Microsoft	Dr. Vinnie Jauhari, Microsoft, India
5	Microsoft Azure Cloud Computing Workshop	National	2015	Microsoft	MCA, M.Tech, Ph.D. students
6	ICT in higher Education Workshop	National	2015	SNDT Univ Mumbai, Utkal Univ	Jayshree Sindhe, Head, Department of Education Technology, SNDT University, Maharashtra

31. Code of ethics for research followed by the departments: As per UGC guidelines

32. Student profile programme-wise:

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.C.A. 2010-11	OJEE	19	9	83.3%	100%
M.C.A. 2011-12	OJEE	23	7	100%	100%
M.C.A. 2012-13	OJEE	18	11	100%	100%
M.C.A. 2013-14	OJEE	13	16	Results Awaited	Results Awaited
M.C.A. 2014-15	OJEE	15	13	Results Awaited	Results Awaited

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
Ph.D. 2010-11	107	11	5	100%	100%
Ph.D. 2011-12	114	13	4	100%	100%
Ph.D. 2012-13	133	4	2	100%	100%
Ph.D. 2013-14	103	8	2	100%	100%
Ph.D. 2014-15	83	9	2		

33. Diversity of students

Name of the Programme (refer to question No.4)	% of students from the same University	% of students from other University Within the State	% of students from Universities outside the State	% of students from other countries
MCA	50%	50%	-	-
Ph.D.	60%	39%	-	1%

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations?

Give details category-wise

Year	NET	GATE	Civil Service Exam	On Campus Recruitment	Off Campus Recruitment	Banking service
2010-11	0	0	0	6	1	
2011-12	0	0	0	4		
2012-13	0	1	0	1		
2013-14	0	0	0	4		
2015	1	0	1	3	1	

- Students have joined in Ph.D. programme at IIT Bhubaneswar, IIT Gauhati, Indian banks, SBI, Wipro, Infosys, Satyam Mahindra, IBM, HCL

35. Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M. Phil./M. Tech	20%
PG to Ph.D.	20%
Ph.D. to Post- Doctoral	-
Employed	
• Campus selection	10%
• Other than campus recruitment	90%
Entrepreneurs	01

36. Diversity of staff

Percentage of faculty who are graduates (P.G/Ph.D)	
of the same university	60%
from other universities within the State	40%
from universities from other State	0%
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: 01

38. Present details of departmental infrastructural facilities with regard to

- a) Library:
 1. Text Books, Reference Books: 3723
Study room with capacity: 1(30) with Internet facility.
 2. Total no. of journals (Indian/Foreign) subscribed annually: 8 & All major e-journals through INFLIBNET
- b) Internet facilities for staff and students: Wi-Fi
Total no of computers connected with Internet-150
- c) Total number of class rooms: 10
- d) Class rooms with ICT facility: 10
- e) Students' laboratories: 4
- f) Research laboratories: 1

39. List of doctoral, post-doctoral students and Research Associates (2010-15)
- Doctoral Students:
- (a) From the University: 12
1. Ajit Nayak : Faculty in Computer Science & Information Technology, S'O'A University
 2. Satya Champati Ray : Faculty in Comp Sc, Silicon Inst of Technology
 3. Alok Ranjan Tripathy : Faculty in Comp Sc, Ravenshaw University
 4. A.C. Ojha : Entrepreneur
 5. Subhendhu Pani : Faculty in Comp Sc, O.E.C. Bhubaneswar
 6. Sushil Kumar Sahoo
 7. Ranjita Kumari Swain
 8. Chandralekha
 9. Rama Krishna Swain
 10. Sunil Kumar Dhal : Faculty in Comp Sc, Sri Sri University
 11. Samresh Mishra : Faculty in Comp Sc, KIIT University
 12. Biswajit Sahoo : Faculty in Comp Sc, KIIT University
- (b) From other Institutions/ Universities : Manoranjan Pradhan
40. Number of post graduate students getting financial assistance from the University/ Govt. Agencies/ Private Organizations:
- Scholarship from -
- i. Higher Education: 30
 - ii. Medhabruti
 - iii. Prerana
41. Was any need assessment exercise undertaken before the development of new Programme(s) ? If so, highlight the methodology. YES
- There was a acute shortage of Computer Science Faculty having M-Tech in Computer Science. The School of Mathematics – Statistics – Computer Science Introduced the following Self Finance Courses :
- i) M. Tech
 - ii) M.Sc.
 - iii) Integrated MCA
- Revised Choice based credit System was discussed in the Board of Studies Meeting.
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.
The matter is discussed in the Teachers' Council of the Department and steps are taken accordingly.
 - b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? YES.
Analysis has been done and suggestions have been implemented.
Suggestions of the students are taken into account.

- c. Alumni and employers on the programmes offered and how does the department utilize the feedback? YES.
The matter is discussed in Teachers' council and steps are taken accordingly.
43. List the distinguished alumni of the department (maximum 10)
 1. Gautam Das - Oracle Software Company
 2. Chitta Ranjan Panda- VP Satyam Mahindra, Eastern Division of India
 3. Durga Prasad Mohapatra- Associate Prof in Computer Science , National Institute of Technology, Rourkela
 4. Sunil Agarwal- Entrepreneur of Nethawk Software Company
 5. Gyana Ranjan Mohanty - Associate Prof in Computer Science in KIIT University
44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.
 - a) University Workshop on e-governance, 2012
 - b) Microsoft Global Azure Boot Camp, 2015
 - c) MATLAB workshop, 2013
 - d) NS2 Workshop, 2013
45. List the teaching methods adopted by the faculty for different programmes.
 - a) Class room teaching using interactive LCD projector and white boards
 - b) Multimedia presentation
 - c) Demonstration with Laboratory Classes
 - d) Project Work
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
 - a) Continuous evaluation in the class.
 - b) Quiz
 - c) Mid Semester Examination
 - d) Interaction Session in the Laboratories.
 - e) Seminar Presentation
 - f) The learning outcomes are monitored through the placements of the students in various national institutions, qualifying in different national level examinations such as GATE, NET, BANKING etc.
47. Highlight the participation of students and faculty in extension activities.
 - a) Invited Talk in different Seminars, Conferences, Universities and Degree Colleges
 - b) Cultural activities organized at University / State Level
 - c) Campus Cleaning
 - d) Participation of students in Sports & NSS
 - e) Alumni get-together and popular talks

48. Give details “beyond syllabus scholarly activities” of the department
 - a) The Department invites experts from software industry like: TCS, Tech-Mahindra, Infosys, Mindtree etc. And Renowned Professors from various Universities / Indian Institute of Technology / National Institute of Technology are invited to deliver talks and inspire the students to excel in their life and for better employment.
 - b) Faculty and student trainings are conducted in a regular basis on MATLAB, NS-2, Cloud Computing etc., for exposure to the latest technology
 - c) Soft Skill courses are offered by the department.
49. State whether the programme/department is accredited/graded by other agencies?
If yes, give details : NA
50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.
 - i. Faculty members are engaged in cutting edge research work and have published more than 150 research papers in peer reviewed journals.
 - ii. Faculty members are invited to deliver talks on recent developments in Information Technology.
 - iii. Best five publications of faculty
 1. B.N.B. Ray, Shankar Balachandran, “An Efficient Wirelength Model for Analytical Placement”, Proc. Of IEEE/ACM International Conference on Design, Automation & Test in Europe (DATE-2013), 18-22 March, 2013 pp.1711 held at Grenoble, France. © 2013 EDAA, ISBN: 978-3-9815370-0-0.
 2. Mrutyunjaya Panda and Ajith Abraham, Internet of Things: Trust management in social internet of things. International journal of trust management in computing and communication, Inderscience, 2014
 3. Mohammed Abdul Khaleel, Sateesh Kumar Pradhan & G. N. Dash: ‘Finding Temporally Frequent Diseases using Modified Karmalego Algorithm’, International Journal of Computer Engineering & Applications, Vol.V, Issue II, Feb.14
 4. Satyasundar Mahapatra, Rati Ranjan Dash, & Sateesh Kumar Pradhan: ‘RSS Algorithm for Job Scheduling in Single Machine, A Novel Approach’, International Journal on Advanced Computer Engineering & Communication Technology, Vol-3, Issue-3, 2014.
 5. B.N.B. Ray, Shankar Balachandran, “A Recursive Model for Smooth Approximation to Wirelength and its Impact on Analytical Placement”, IEEE/ACM International Conference on VLSI Design 2015 and Embedded System held at Bangalore from January 3-7, 2015 at Hotel Leela Palace.
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.
Strengths:
 - a) Qualified faculties, Illustrious alumni, Demand for the professional courses offered

- b) Each Faculty member is provided with Computer, Internet access in the department.
- c) Supportive working environment among department staff members
- d) Excellent administrative support
- e) Students' placement, Internship in software companies
- f) Provision for e-journals through INFLIBNET
- g) Providing computer awareness programmes

Weakness:

- (a) Completion of 2nd and 3rd floors of the department building.
- (b) Setting up high-performance computing (HPC) laboratory.
- (c) Completion of the Communication laboratory for soft skill development
- (d) Requirement of electrical/electronic technicians to manage the equipments.
- (e) Subscription to various Digital libraries

Opportunities:

- (a) Collaboration with institute of higher learning at national/international levels.
- (b) Promoting interdisciplinary research works
- (c) Developing Odia software for local languages to popularise computer literacy.
- (d) Development of Computing Applications for social cause
- (e) Automation of University Administration
- (f) Introduction of dual degree B.Tech./M.Tech. in Computer Science

Challenges:

- (a) To contribute trained IT manpower for the country.
- (b) To improve the quality of research and teaching.
- (c) Involvement in Societal Outreach Programme.
- (d) To take the leadership in basic IT training in the State.
- (e) To become a Centre of Excellence in both Research and Teaching.
- (f) To motivate the students to come out with innovative ideas.
- (g) Exchange programme with institute of national/international repute.
- (h) To provide IT enabled cost effective solutions in teaching learning to colleges affiliated to Utkal University.

52. Future plans of the department.

- Research (Applied/socially relevant)
- Collaboration with Universities and Industries
- Industrial Consultancy and Grant-in aid for carrying out Research Project
- Improve employability of the students through skill-based workshops
- Developing Real-time Applications/Machine learning interfaces for visually challenged people.
- Digitization of old decayed manuscripts, palm leaf scripts
- Developing CBT applications for rural school children of Orissa

Annexure-A

2015

Publications in Peer Reviewed Journals:

1. N.Patra, B.N.B.Ray, S.P.Mohanty, “ Distributed Dynamic Frequency Allocation in Wireless Cellular Network Using Graph Multicoloring” IJRET Feb 2015, eISSN No-2319-1163
2. B.N.B. Ray, “ Parallel Algorithm for Hermite Interpolation on Star graph” International Journal of Advance research in Comp Sc and Software Engg, Vol 5, Issue5, May 2015, ISSN 2277 128 X
3. B.N. Bhramar Ray, “ Parallel Hermite Interpolation on Faulty K-ary n-cubes Network” International Journal of Innovative Science, Engineering and Technology, Vol 2, Issue 5, May 2015, ISSN 2348-7968
4. N.Patra, B.N.Bhramar Ray, S.P.Mohanty, “On Demand Dynamic Frequency Allocation to Serve Drop Calls in Cellular Mobile Networks”, IJCST Vol. 6, Issue 1, Jan - March 2015, ISSN : 0976-8491 (Online) | ISSN : 2229-4333 (Print)
5. N.Patra, B.N.Bhramar Ray, S.P.Mohanty, “Dynamic Interval Graph Coloring for Channal Assignment in Wirless Cellular Networks”, International Journal of Computer Networks and Wireless Communications (IJCNWC), Vol.5, No.1, February 2015
ISSN: 2250-3501
6. B.N.Bhramar Ray, “p-mean Approximation for HPWL”, IJRSET Volume 2, Issue 5, Page 7-11, 2015, ISSN 2394-739X
7. B.N.Bhramar Ray, “p-mean Model Impact on VLSI Placement”, 2015, IJEDR | Volume 3, Issue 3 | ISSN 2321-9939
8. B.N.B.Ray “Generalized Wirelength Models for VLSI Placement” International Journal Accepted, 2015
9. B.N.B.Ray “ Wireless Sensor Networks: A survey” Accepted for publication, 2015
10. Sudan Jha, B. K. Ratha, “Enhancing Teaching – Learning Professional Courses via M- Learning”, *International Journal of Latest Trends in Engineering and Technology* “IJLTET–ISSN : 2278 621X (Online Version) 2319-3778 (Printed Version)“, Vol. 5 Issue 3, pp. 256-270, May 2015
11. Sudan Jha, B. K. Ratha, “Query Dependence in the Processing of Distributed Database Management Systems”, *International Journal of Engineering Research & Sports Science* “IJERSS–ISSN : 2348-1404(ONLINE); ISSN : 2348-2400(PRINT) “, IJERSS, Volume 2, Issue 5 Paper ID: IJERSS-1428919037 MAY 2015
12. Sudan Jha, B. K. Ratha, “Combination of IEEE 802 1x/EAP-TTLS & RADIUS protocols to approach for efficient authentication and security mechanism design in Wireless Networks”, *International Journal of New Innovations in Engineering and Technology* “IJNIET – ISSN No. : 2319-6319“, Volume 3 Issue 1, pp. 38-50, March 2015
13. Prasenjit Kundu ,Bikram Kesari Ratha , “ Business Rule Inclusion Through Binary Instrumentation”, International Journal of Science and Research (IJSR) [ISSN (Online): 2319-7064] ,vol-4,Issue -2 ,February 2015 ,pp.814-819

14. S.R.Lenka, B.K.Ratha,"HTTP Service based Network Intrusion System in Clouding Computing", In RISE2015, Mauritius (Paper Id: E1015506), Accepted.
15. N.Beale, B.K.Ratha, " Framework for Opinion Mining from Web Blogs",International Journal of Advanced Research in Computer Science,ISSN No. 09765697,Vol-6,No 6,July-August 2015,pp1-4
16. Sanjay Kumar Sen, B.K.Ratha,"Application of Meta learning in Banking Sector", International Organization of Scientific Research (IOSRJEN), ISSN(e) No.2250-3021, Vol 05, Issue 8 (August 2015), IIV4II,pp 05-10.
17. Sanjay Kumar Sen, B.K. Ratha, "Application of Meta learning in detection of Lung Cancer", International Journal of Computer Trends & Technology (IJCTT), Vol. 26. Number 1 August2015, ISSN 2231-2803, PP32-36
18. P.C. Sethi, P.K.Behera, "Methods of Network Security and Improving the Quality of Service – A Survey", International Journal of Advanced Research in Computer Science and Software Engineering, vol – 5 (Issue – 7), July – 2015, Volume 5, Issue 7, July 2015 ISSN: 2277 128X
19. Sujogya Mishra, Shakti Prasad Mohanty, & Sateesh Kumar Pradhan:' Rough Set Approach for Classification of Advertisement in the Development Business Establishment', International Journal of Computer Applications, Vol. 110, No.5, January 2015.
20. Sujogya Mishra, Shakti Prasad Mohanty, & Sateesh Kumar Pradhan:' Rough Set Approach for Generation of Classification Rules for Malaria', International Journal of Computer Applications, Vol. 112, No.4, February 2015.
21. Sujogya Mishra, Shakti Prasad Mohanty, Sateesh Kumar Pradhan, & Radhanath Hota:' Rough Set Approach for Generation of Classification Rules for Dengue', International Journal of Computer Applications, Vol. 118, No.14, May 2015.

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1. B.N.B. Ray, Shankar Balachandran, "A Recursive Model for Smooth Approximation to Wirelength and its Impact on Analytical Placement", IEEE/ACM International Conference on VLSI Design 2015 and Embedded System held at Bangalore from January 3-7 , 2015 at Hotel Leela Palace.
2. Suneeta Satapathy, Sateesh K. Pradhan, B.N.B.Ray, " A Decision Driven Computer Forensic Classification using ID3 Algorithm", Intelligent Computing , Communication and Devices, Advances in Intelligent Systems and Computing Vol 309, pp367-376, 2014-2015, Published by Springer, ISBN-978-81-322-
3. N.Beale, B.K.Ratha," Framework Web Community Mining From Weblogs", In 2nd International Conference on Emerging Trends in Computer Science, Communication and Information Tech S.R. Lenka, B.K. Ratha," HTTP Service based Network Intrusion System In Clouding Computing", In RISE 2015,Mauritius(Paper Id: E1015506), Accepted.

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1. N.Patra, B.N.B.Ray, S.P.Mohanty "A new Dynamic Single Row Routing for channal Assignment", IJRET, 2014. eISSN: 2319-1163 pISSN: 2321-7308

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3. S. Mohanty, P.K. Behera, "Comparison of Octagon-Cell Network with Other Interconnected Network Topologies and Its Applications", International Journal of Computer Engineering and Applications, vol- VII, page: 201-211, 2014
4. R.K. Swain, V. Panthi, D.P. Mohapatra, P.K. Behera, "Prioritizing test scenarios from UML communication and activity diagrams Innovations in Systems and Software Engineering", A NASA journal (Springer), vol-10, Page: 165-180, 2014
5. R.K. Swain, V. Panthi, D.P. Mohapatra, P.K. Behera, "Slicing-based test case generation using UML 2.0 sequence diagram", International Journal of Computational Intelligence Studies", vol – 3, Page: 221-250, 2014
6. P.C. Sethi, P.K. Behera, "An Efficient Dynamic Bandwidth Allocation Algorithm for improving the Quality of Service of Networks", European Journal of Academic Essays (Spl Issue-I), Page: 31-35, 2014
7. M.R.Biswal, S.S.Kumar, P.K.Behera, "Towards Development and Deployment of Stack based Academic Cloud solution", International Journal of Advanced Cloud Computing and Applied Research, vol – 2, Page: 13-25, 2014
8. Mrutyunjaya Panda and Ajith Abraham, Internet of Things: Trust management in social internet of things. International journal of trust management in computing and communication, Inderscience, 2014
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11. Sujogya Mishra, Shakti Prasad Mohanty, & Sateesh Kumar Pradhan: ' Development of a Business Logic using Simple Application of Rough Set Theory', International Journal of Computer Science, Vol. 11, Issue.5, September 2014
12. Sujogya Mishra, Shakti Prasad Mohanty, & Sateesh Kumar Pradhan: ' Rough Set Approach to Generate Classification Rules for Diabetes', International Journal of Computer Science, Vol. 11, Issue.6, November 2014

Publications in Conference Proceedings:

1. N.Patra, B.N.B.Ray, S.P.Mohanty,"OnlineFrequent Reassignment for New and Drop Calls in Wireless Cellular Networks" 14th International Conference on Information Technology 2014, held at Bhubaneswar from December 22-14, 2014, Paper Published by IEEE Society Press.
2. B.N.B.Ray, Alok Tripathy, Pralipta Samal, Manimay Das, Pushpanjali Malik, " Half Perimeter Wirelength Model for VLSI Analytical Placement" 14th International Conference on Information Technology 2014, held at Bhubaneswar from December 22-14, 2014, Paper Published by IEEE Society Press

3. Swatee Mohanty, P. K. Behera, "Dynamic Slicing of Object-Oriented Programs in presence of Inheritance", International Conference on Computational Intelligence in Data Mining (ICCIDM-2014)
4. P. C. Sethi, P. K. Behera, "Secured Packet Inspection with Hierarchical Pattern Matching implemented using Incremental Clustering Algorithm", ICHPCA – 2014, IEEE International Conference, 22nd - 24th December –2014

2013

Publications in Peer Reviewed Journals:

1. Alok Ranjan Tripathy, B.N.B.Ray " A New Parallel Algorithm for Minimum Spanning Tree" IJASCSE, Volume 2, Issue 5, 2013 , International Journal
2. Mr Prasenjit Kundu, Debabrata Das, Bikram Kesari Ratha "An Elementary Review of Linkages & Gaps Among BPR, SOA & Software Reverse Engineering" International Journal of Computational Engineering Research (IJCER) Volume 3, Issue 2, February, 2013
3. Bikram Kesari Rath Mr. A. K. Hota, Dr. Ashis Kumar Mahapatra, "Noble Approach towards Effective Electronic Services Delivery in Tribal Sector" PEZZOTTAITE Journals "International Journal of Information Technology and Computer Science Perspectives" of Volume-2, Number-1, , ISSN : 2319-9024 (Online Edition January-March-2013.
4. Prasenjit Kundu, Bikram Kesari Ratha and Debabrata Das, "A Conceptual Framework for Analyzing the Entry Points to SOA Adoption of a CRM Process", *International Journal of Engineering Associates* [ISSN: 2320-0804], Vol. 2, Issue. 1, May 2013
5. S. K. Sahoo, P. K. Behera, "An Efficient Hybrid Channel Allocation Mechanism in Mobile Network", International Journal of Research in Engineering & Applied Sciences, vol – 3, Page: 16-30, 2013
6. Huda Fatima, Sateesh Kumar Pradhan & G. N. Dash: 'Web Semantics in Improving Teaching & Learning using Fuzzy Rules', International Journal of Systems, Algorithms & Applications, Vol.3, Issue ICRASE13, May 2013.
7. Mohammed Abdul Khaleel, Sateesh Kumar Pradhan & G. N. Dash: ' A survey of Data Mining Techniques on Medical Data for Finding Temporally Frequent Dieses', International Journal of Advanced Research in Computer and Communication Engineering, Vol.2, Issue 12, December 2013.
8. Hari Sankar Chaini, Nagaranjan Venkatramani, & Sateesh Kumar Pradhan: 'Content Testing, Automation in Web Application of Global Websites through Selenium Automation Framework', International Journal of Emerging Technology and Advanced Engineering, Vol.3, Issue 6, June 2013

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1. B.N.B.Ray, Shankar Balachandran, "An Efficient Wirelength Model for Analytical Placement ", Proc. Of IEEE/ACM International Conference on Design, Automation & Test in Europe (DATE-2013), 18-22 March, 2013 pp.1711 held at Grenoble, France. © 2013 EDAA, ISBN: 978-3-9815370-0-0
2. Alok Ranjan Tripathy, B.N.B.Ray " Parallel Algorithm for Solving the System of Simultaneous Linear Equations by Jacobi Method on Extended Fibonacci Cubes"

- Proc. Of IEEE ACC international Advance Computing Conference, pp-970-976, February 22-23 , 2013.
3. S.Pani,M.Nayak,B.K.Ratha, “A survey on Bee Colony Optimization in Web Mining”, In U.G.C Sponsored National Seminar on Advances in ICT, pp 105,(Abstract Only),8-9 February 2013,Berhampur University,Odisha
 4. Mrutyunjaya Panda, Manas Nanda and Manas Ranjan Patra, Cloud Computing based hybrid intrusion detection system, International conference on communication, control and Instrumentation, October 2013, Gunupur, India.

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1. Alok Ranjan Tripathy, B.N.B.Ray, S.P.Mohanty, “ Parallel Hermite Interpolation on Extended Fibonacci Cubes” International Journal of Computer Applications (0975-8887), Volume-54- No.17, September 2012, pp-36-41
2. Suneeta Satapathy, Sateesh K. Pradhan, B.N.B.Ray. Application of Data Fusion Methodolgy for Computer Forensic data set analysis to resolve data quality issues in Predictive Digital Evidence ” International Journal of Forensic Computer Science, Vol-7, No-1, pp16-23, February 2012
3. Prasenjit Kundu, Debabrata Das, Bikram Kesari Ratha “Revisiting BPR: A New Framework & Model for Future” International Journal of Engineering Research and Technology, Vol. 1, Issue 8, October 2012
4. Prasenjit Kundu, Debabrata Das, Bikram Kesari Ratha “WSDL Specification of Services for Service Oriented Architecture (SOA) Based Implementation of a CRM Process” International Journal of Scientific and Engineering Research, Volume 3, Issue 10, October 2012.
5. Mr. A. K. Hota, Dr. Ashis Kumar Mahapatra, Dr. Bikram Kesari Rath, Manaw Modi “Web Services Approach to Address the Challenges in Tribal Development” STM Journals “Journal of Computer Technology & Applications” of Volume-3, Issue-1-3, , ISSN: 2229 - 6964 Pages 134-146 compilation 2012
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7. R.K.Swain, V.Panthi, D.P.Mohapatra, P.K.Behera, “Test Case Generation based on State Machine Diagram”, International Journal of Computer Information Systems, vol – 4, Page: 99-110, 2012
8. R.K.Swain, D.P.Mohapatra, P.K.Behera, “Automatic Test case Generation from UML State Chart Diagrams”, International Journal of Computer Applications, vol – 42, Page: 26-36, 2012
9. S.K.Sahoo, P.K.Behera, “A Comparative Analysis on Channel Allocation Schemes towards an Efficient Assignment Strategy in Cellular Mobile Network”, National Journal of Computer Science & Technology, vol – 4, Page: 47-50, 2012
10. S.K.Sahoo, P.K.Behera, “A Comparative Survey on Dynamic & Hybrid Channel Allocation in Cellular Mobile Communication System”, MERI Journal of Management & IT, vol – 1, Page: 70-78, 2012
11. Mrutyunjaya Panda, Ajith Abraham, Hybrid Intelligent system for network intrusion detection, Wiley journal of communication and network security, 2012.

12. Manoranjan Pradhan, Sateesh Kumar Pradhan, & Sudhir Kumar Sahu: 'Anomaly Detection using Artificial Neural Network', *Int. Journal of Engineering Sciences & Technologies*, pp.29,36,vol.2,Issue1,2012.
13. Manoranjan Pradhan, Sateesh kumar pradhan, & sudhir kumar sahu: 'Anomaly Detection using Different Artificial Neural Network Training Functions', *International Journal of Engineering Sciences & Technologies*, pp.29,36,vol.2,Issue1,2012.
14. Manoranjan Pradhan, Sateesh Kumar Pradhan, & Sudhir Kumar Sahu: 'Anomaly Detection using Artificial Neural Network', *Int. Journal of Engineering Sciences & Technologies*, pp.29,36,vol.2,Issue1,2012.
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19. Satyajit Rath, Sateesh Kumar Pradhan & V N Shukla: 'Role of Decision Making Models in District Scenario Planning', *International Journal of Computer Application*, Vol.56, No.17, October 2012.

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1. Suneeta Satapathy, Sateesh K. Pradhan, B.N.B.Ray, "Rule Based Decision Mining With JDL Data Fusion Model For Computer Forensics: A Hypothetical Case Analysis (pp. 93-100) , *International Journal of Computer Science and Information Security*, December 2011, Vol-9, No-12, IISN-1947-5500
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4. Subhendu Kumar Pani, M. Pandia, S.K.Swain, B.K.Ratha "A Novel Approach for Pre-Processing Web Access Logs" *IUP Journal of Information Technology* (accepted for Publication in September 2011)

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6. S.K.Sahoo, P.K.Behera, “Path Loss-A Parameter that Affects Channel Performance in Mobile Communication”, National Journal of Computer Science & Technology, vol – 3, Page: 34-36, 2011
7. S.Mohanty, P.K.Behera, “Optimal Routing Algorithm in Octagon-Cell Network”, International Journal of Advanced Research in Computer Science, vol – 2, Page: 625-637, 2011
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9. Mrutyunjaya Panda, Ajith Abraham, Swagatam Das and Manas Ranjan Patra, Network intrusion detection system: A Machine Learning approach, International journal of intelligent decision technologies, 5(4): 347-356 (2011), IOS Press, Netherland
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3. M.A.Patekar, L.P.Padhi, B.K.Ratha, ”Homology Modeling and docking of Human MHC Class II Antigen Protein involved in Immune response Using Insight II Software”, In Proceeding of National Conference on Emerging Trends In Biological and Information Science, ISBN:978-81-909939-1-3, pp 40-44.Udgir,2011
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1. Mrutyunjaya Panda and Manas Ranjan Patra, Characterizing Intelligent Intrusion Detection and Prevention System Using Data Mining, in Global Trends in Knowledge Representation and Computational Intelligence, B.K.Tripathy et al. eds, IGI Global, USA, 2013.
2. Mrutyunjaya Panda and P.M. Khilar, Routing Protocols in Mobile Wireless Sensor Network, in B. B. Misra, S. Dehuri, B. K. Panigrahi, and A. K. Nayak (Eds.), Computational Intelligence in Sensor Networks, Studies in Computational Intelligence Series, Springer-Verlag/Heidelberg, 2013 .

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4. Mrutyunjaya Panda, Nashwa El-Bendary, Mostafa A. Salama, Aboul Ella Hassanien and Ajith Abraham, Computational Social Networks: Tools, Perspectives, and Challenges, Vol. 1, Springer Computer, Communication book series, Ajith Abraham et al. edns, 2011. Springer-Verlag, London.
5. Mrutyunjaya Panda , Neveen Ghali, , Aboul Ella Hassanien, Ajith Abraham and Vaclav Snasel, Social Networks Analysis: Tools, Measures and Visualiziation, Vol. 1, Springer Computer, Communication book series, Ajith Abraham et al. edns, 2011. Springer-Verlag, London.
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7. Mrutyunjaya Panda and Manas Ranjan Patra, "Mining knowledge from intrusion data using data mining techniques". World Scientific Press, London. 2010. ISBN: 978-1-84816-386-7.

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1. B.N.B.Ray, Lecture Notes on Graph Theory, " Mayur Publisher, 2015 ISBN-978-81-89626-57-0
2. Mrutyunjaya Panda and Manas Patra, Soft Computing: Concepts and Techniques, Universal science press, New Delhi, India, 2013. ISBN 13 9789381159668
3. Mrutyunjaya Panda, S.N. Dehuri and Manas Patra, Modern approaches of Data Mining: Theory and Practice, Narosa Publication, India, 2014.
4. Mrutyunjaya Panda, Satchidananda Dehuri and Wang, Social network: Mining, Visualization and Security, Springer, 2013. (Edited Book)
5. Mrutyunjaya Panda, Satchidananda Dehuri and Alok Jagdev, Multi-objective Swarm Intelligence: Theoretical Advances and Applications, computational Intelligence series, Springer, 2015, (Edited Book).



Post Graduate Department of GEOGRAPHY



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department- P.G. DEPARTMENT OF GEOGRAPHY
2. Year of establishment -1970
3. Is the Department part of a School/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) –P.G, M.Phil, Ph.D, D.Sc, D.Lit and P.G. Diploma in Remote Sensing and GIS
5. Interdisciplinary programmes and departments involved- Nil
6. Courses in collaboration with other universities, industries, foreign institutions, etc. - Nil
7. Details of programmes discontinued, if any, with reasons- Nil
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System-
 - M.A/M.Sc-Semester Choiced Based Credit System
 - M.Phil-Semester
 - Ph.D-6 month course work on Research methodology
 - P.G.Diploma in Remote Sensing and Geographical Information System- Annual examination with 100 marks Project work.
9. Participation of the department in the courses offered by other departments- Nil
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	1-Direct 2.CAS (Rtd)	
Associate Professors/Reader	4	2-Direct	
Asst. Professors/Lecturer	4	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 Research/ Teaching	No. of Ph.D./ M.Phil. students Guided for the last 5 years
G.K.Panda (Rtd)	M.Sc, M.Phil, Ph.D	Professor	Physical Geography, Natural Hazards and Disaster Management	30	M.Phil- 4 Ph.D- 3
P.K.Kar(Rtd)	M.Sc, M.Phil, Ph.D	Professor	Regional planning, Environmental Geography	28	M.Phil- 2 Ph.D-2
K.M.Sethy	M.A, M.Phil, Ph.D	Professor	Urban and Regional Planning, Remote Sensing and GIS, Environmental Geography	25	M.Phil-8 Ph.D-4

K.C.Rath	M.A, M.Phil, Ph.D	Reader	Urban and Regional Planning and Environmental Geography	18	M.Phil-4 Ph.D-2(cont.)
D.Panda	M.Sc, Ph.D	Reader	Physical Geography, Natural hazard and disaster management, RS&GIS	21	M.Phil-9 Ph.D-1(cont.)

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors -Nil
13. Percentage of classes taken by temporary faculty – programme-wise information-
M.A/M.Sc-7%
14. Programme-wise Student Teacher Ratio –
 - M.A/M.Sc in Geography - 9 :1
 - M.Phil in Geography - 2:1
 - Ph.D course work - 3:1
 - P.G.D.RS&GIS - 3:1

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

Post	Sanctioned	Filled	Actual
Lab.Demonstrator	4	4	1
Cartographer	1	1	-
Research Assistant	1	1	-
Draughtman	1	1	-
Store Keeper	1	1	-
Photographer	1	1	-
Laboratory attendant	2	2	2
Office Assistant	1	1	1
Typist	1	1	1
Peon	1	1	1
Sweeper	1	1	1
Watchman	1	1	2

16. Research thrust areas as recognized by major funding agencies – UGC
Natural Hazards and Disaster management
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 -Nil
a) National collaboration b) International collaboration
19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.-DRS-I
20. Research facility / centre with-Nil
 - state recognition
 - national recognition
 - international recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies- Nil
22. Publications:
 - Number of papers published in peer reviewed journals (national / international) 25
 - Monographs – Nil
 - Chapters in Books * Edited Books - 7
 - Books with ISBN with details of publishers - 3. Enkey Publishers, New Delhi.
 - Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) - Nil
 - Citation Index – range / average * SNIP - Nil
 - SJR - Nil
 - Impact Factor – range / average * h- index - Nil
23. Details of patents and income generated - Nil
24. Areas of consultancy and income generated - Environmental impact assessment for Global Experts (Honorary) Prof. K.M. Sethy, NABET Accredited Member.
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad - Prof. K.M. Sethy, Visited Dhaka, Bangla Desh to review project of European Union.
26. Faculty serving in - Prof. K.M. Sethy, Academic partner to Bay of Bengal initiatives in National and International forum.
 - a) National committees b) International committees c) Editorial Boards d) any other (please specify)
27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Name of the Faculty	Designation	Programme
G.K.Panda	Professor	
P.K.Kar	Professor	
K.M.Sethy	Professor	<p>1. One day State Consultancy on "<i>Equitable and Ambitious Global Climate Agreement in Cope21</i>". Sponsored by CANSA, as an Organising partner. At Hotel Marriot, Bhubaneswar on 17th June 2015.</p> <p>2. Attended one day State Consultancy "State Consultation towards Equitable and Ambitious Global Climate Agreement in COP2, participate in this one-day consultation as organising partner to organize the event and thereby enable us to strengthen the global negotiation process.</p> <p>3. Attended 3rd Sub –Regional Workshop organized at Kolkata from 12th -13th March 2015 as Chair for the Session "<i>Climate Change Impact</i>".</p>

		<p><i>Monitoring/Assessment”</i></p> <p>4.Two days workshop on Implication of Climate Change on Water Resource and Agriculture organized by <i>“Knowledge Network Center on Flood and Waterlogging,” Supported by UNDP and AusAID during 25-26 th July 2014</i> at Bhubaneswar.Odisha.</p> <p>5.Two days lunching workshop of the <i>“Knowledge Network Center on Flood and Waterlogging,” Supported by UNDP and AusAID during 22-23 November,2013 at IIT Kanpur.</i></p> <p>6.Attended 2nd Sub –Regional Workshop organized at Dhaka from 25th -27th October ,2013 as Chair for the Session <i>“Climate Change Impact Monitoring/Assessment”</i></p> <p>7.Attended the <i>“Regional Consultation and Review”</i> held at Concern Worldwide Office at Dhaka from 11th to 16th December 2012.</p> <p>8.Attended two days Sub Regional workshop on <i>“Community Resilience to Climate Change in the Bay of Bengal”</i> held at Bhubaneswar, chaired a session .12July to 14yh July, 2012.</p> <p>9.Attended two days workshop organized by UNDP on <i>“Climate Change Risk Reduction Through Integrated Water Management,Special focus on combating Floods and Waterlogging”</i>at Puri on 5th and 6th November 2012.</p> <p>10.Attended and presented a paper in UGC sponsored National Seminar on <i>“Geospatial Database for Natural Disaster Management and Planning”</i> at Hyderabad, 25th and 26th March 2011.</p> <p>11.Attended the Orissa Environmental Congress 2010 during 22nd –to 24th December 2010 at Bhubaneswar.</p> <p>12.Attended and presented a paper at 32th Annual Conference and National Seminar on <i>Population and Public Health</i>, November 28-30, 2010 at Bhubaneswar.</p> <p>13.Attended and presented paper at <i>Berlin Conference 2010</i>. on the <i>Humanitarian Dimension of Global Environmental</i>Change “Social Dimension of Environmental Change and Governance on topic Studies on the Impacts of Natural Hazard Driven Environmental Change on the Selected Coastal</p>
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		<p>Community of Orissa, India during October 8-9, 2010.Germany.</p> <p>14.National Seminar on National Seminar on <i>Geo-informatics and development</i> at Dept. of Geography, Osmania University, Hyderabad on 22nd & 23rd March 2010.</p> <p>15.National Seminar on <i>Sustainability of Earth Resources - Strategies and Management Plans</i> at Sambalpur University, Orissa during February 13th & 14th 2010.</p> <p>16.Acted as Resource Person at Sambalpur University, Orissa for the “<i>Base level Training in application of Remote Sensing in Mineral Exploration</i>” held on dated 12th & 13th December 2009.</p> <p>17.National seminar in Geography (DRS sponsored) on <i>natural hazards</i> organized by Utkal University, Bhubaneswar, 2009.</p> <p>18.National seminar in Geography (DRS sponsored) on <i>natural hazards</i> organized by Utkal University, Bhubaneswar, 2008.</p> <p>19.National seminar in Geography (UGC sponsored) on <i>natural resource management & sustainable development</i>,organized by Ravenshaw University, Cuttack, 2007.</p> <p>20.National seminar in History [UGC sponsored] Contribution of Prachi valley in the <i>making of Orissan Culture</i>, at Sishu Ananta Mahavidyalaya, Baliana,Khurda 23rd and 24th Dec.2006.</p> <p>21.Training Workshop on Consumer Protection and Welfare, Organised by Indian Institute of Public Administration, I.P. State, Ring Road, New Delhi-110002. From 11th July to 15th July 2005.</p> <p>22.Regional workshop on “Flood management in Eastern region” Organised by Organisation for Disaster Management and Mitigation. 25 and 26 Feb. 2005.</p> <p>23.Workshop on Micro Planning for watershed Development in Tribal regions of Orissa”, One day workshop on “Census Data Dissemination “.Organised by Census of India, Organised by CPSW,IRC Village, Bhubaneswar, Orissa. 2004.</p>
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		<p>24.National seminar Organised in COLLABORATION with P.G.department of A and A Economics, Sponcerd by Department of Regional Planning. IIT Kharagpur.1999.Bhubaneswr, Orissa. August 2004.</p> <p>25.Environmental Degradation and its Management, organized by P.G. Department of Geography, Utkal University. Vani Vihar, 1995.</p> <p>26.International Seminar organized by P.G. Department of Geography, Utkal University, Vani Vihar.</p> <p>27.National Association of Geographers, India Organized by National Remote Sensing Agency, Hyderabad.</p> <p>28.National Association of Geographers, Indian Organised by P.G, Department of Geography, Utkal University.</p>
K.C.Rath	Reader	<p>Refresher Course on “Geospatial Technologies” Under Natural resource Data Management System (NRDMS) Three Weeks 2013</p> <p>99th Indian Science Congress,Kiit University,2012</p> <p>4th International Geography Congress on Coastal Zone Management: Issues & Challenges National Association of Geographers, India Dept. of Geography, Utkal University2013 paper presented</p> <p>National Conference on Science for Shaping the Future of India on the Occasion of 15th Odisha Bigyan Congress Indian Science Congress Association, Dept. of Geology, Utkal University and Orissa Environmental Society 2012 paper presented</p> <p>33rd Indian Geography Congress 2011 NAGI Paper presented</p> <p>IASSH 8th Conference Health, Environment & Sustainable Development Organized Indian Association for Social Science & Health & Sri Venkataswara University, Tirupati2011 paper presented.</p>
D.Panda	Reader	<p>33rd Indian Geography Congress(NAGI) held in the Dep of Geography, Burdwan University from 10-12 March,2011 and presented a research paper “Heat Waves in Odisha”</p> <p>Annual conference of EGS and National seminar on Natural hazards and resource management in P.G.Department of Geography,Utkal University on 24th</p>

		<p>April 2011 presented a paper "Tsunami-Lessons learnt"</p> <p>Participated in the 99th Indian Science Congress held at KiiT University,Bhubaneswar from 3-7 January,2012.</p> <p>Participated National Workshop on Spatial Data decentralization planning in Ravenshaw University from 3-4 Frebruary 2012.sponsored by DST Govt.of India.</p> <p>Participated ORSAC organized National Workshop on RS & GIS application in Rural and Urban Planning from 3-4 February 2012,Bhubaneswar.</p> <p>National Seminar Organized by the Department of Geography,Utkal University from 15-16 March 2012 presented a research paper"Climate Change Impact on Urban Floods of Cuttack City"</p> <p>NAGI International Seminar held in the Dept.of Geography Utkal University from 16-18 January 2012 presented two research papers "Climate Change of Coastal Odisha and Rainfall Variability analysis of the Baitarani Basin"</p> <p>Participated 100th Indian Science Congress organized by Calcutta University from 3-7 January 2013 my research paper accepted for oral presentation.</p> <p>Participated in the National Workshop organized by the Dept.of Geology Utkal University on Geohydrology on 28th January 2013 sponsored by the DST Gov.of India and prepared a report of the workshop.</p> <p>Participates Odisha Chapter East Zone Institute of Town Planners India National Conference 6-7th April 2013 at Bhubaneswar.</p> <p>Participated National Workshop on "Development of common spatial data base for improved planning of Geo-Resources of Odisha"sponsored by DST and organized by the Earth System Sciences and Regional Planning ,Ravenshaw University from 16-17 April 2013</p> <p>International Conference on Climate Change held in the department of Geography,Andhra University,Visakhapatnam from 23-24 June 2013 presented a research paper "Climate change of the Rushikulya basin-rainfall"</p> <p>35th Indian Geography Congress organized by the Department of Geography,University of Madras from 12-14 December 2013presented a research paper "Cyclone Phailine –Its impact and management in Odisha"</p>
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		<p>Participated in the workshop organized by ORSAC sponsored by NSDI Govt. of India at Bhubaneswar 4-5th Sept.2014</p> <p>"Impact of Phailin in Ganjam district" presented at the national seminar on "Innovation in Science and Technology for Inclusive Development" on the occasion of the 16th Odisha Bigyan Congress held at Institute of Physics from November 23-24,2014</p> <p>"Floods of Odisha-2014,causes,consequences and management" presented at the International Seminar on Environmental Prospective and Resource management,focal theme :-Environment and Physico-cultural prospective towards resource management,organized by Institute of Landscape and Ekastiks and Geological Society of India ,in the Dept of Geography,University of Calcutta,Kolkata from 19-20,December,2014.</p> <p>Co-Chaired a technical session on the sub-theme "Applied resource management" .Judge of the selection of the best oral presentation assessment committee.</p> <p>Impact of Climate Change on Tourism in Odisha"presented at the DGSI International Conference on "Tourism and Development" at Dept.of Geography,Boudh Gaya University,BoudhGaya from 26th to 28th February,2015.</p> <p>Participated at the International Conference on India and Indian Ocean –Renewing the Maritime Trade and Civilization linkages from 20-22 March,2015at Hotel May Fair,Bhubaneswar and organized by RIS(Research and Information system for developing countries and Institute for Social and Cultural Studies(ISCS)</p> <p>Conducted Technical sessions of Indian Children science congress at district level and state level at Bhubaneswar since 2004.</p>
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Refresher Course conducted – 2

- Environmental studies in 2011
- Disaster management in 2014

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects-70%
- percentage of students doing projects in collaboration with other universities / industry / institute-30%
- Odisha Space Application Center,Bhubaneswar.

- Chilika Development Authority,Bhubaneswar.
 - Census of India,Bhubaneswar.
 - Bureau of Economics and Statistics,Bhubaneswar
 - Board of Revenue,Special Relief Commissioner,Bhubaneswar.
 - Directorate of Tourism,Bhubaneswar.
 - Irrigation and Flood control Engineering department
 - Central Water Commission,Bhubaneswar.
 - Central Ground Water Board,Bhubaneswar.
 - Lift Irrigation Corporation
 - Directorate of Agriculture
 - Soil Conservation departments
 - Agriculture departments
 - Forest departments
 - Indian Meteorological Department
 - Municipalities
 - Town planning
29. Awards / recognitions received at the national and international level by- Nil
- Faculty
 - Doctoral / post doctoral fellows
 - Students
30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.
- NAGI International Conference held in 2012 ,about 300 participated including some foreign countries funded by UGC,CDA and others on the theme Coastal zone management.
 - National conference-DRS held in 2011,about 100 participated on the theme cyclone hazards in coastal odisha.
31. Code of ethics for research followed by the departments- Nil
32. Student profile programme-wise: 2010-2015

Name of the Programme (refer to question no.4)	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
M.A/M.Sc. 2010-11	100	11	13	91	94
M.A/M.Sc. 2011-12	106	9	15	93	96
M.A/M.Sc. 2012-13	98	10	14	92	95
M.A/M.Sc. 2013-14	91	12	12	90	91
M.A/M.Sc. 2014-15	100	8	16	94	92

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
M.Phil. 2010-11	22	3	7	94	92
M.Phil. 2011-12	16	3	5	90	93
M.Phil. 2012-13	30	5	5	94	96
M.Phil. 2013-14	12	2	6	90	93
M.Phil. 2014-15	30	1	7	85	91

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
Ph.D. 2011-12	20	10	3	100	100
Ph.D. 2012-13	26	5	7	100	100
Ph.D. 2013-14	23	7	8	100	100
Ph.D. 2014-15	17	10	7	-	-

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
P.G.D.RS&GIS. 2010-11	29	8	7	100	100
P.G.D.RS&GIS. 2011-12	36	6	7	100	100
P.G.D.RS&GIS.2012-13	21	3	7	100	100
P.G.D.RS&GIS .2013-14	23	4	8	100	100
P.G.D.RS&GIS .2014-15	29	9	0	-	-

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
M.A/M.Sc	59.37	35.41	5.20	0
M.Phil	70	30	0	0
Ph.D	89	6	24	0
P.G.Diploma in RS &GIS	100	0	0	0

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

Civil	Defence	NET	SET	Gate	Other compt.exam
Nil	Nil	5	-	-	5

35. Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M.Phil.	70
PG to Ph.D.	89
Ph.D. to Post-Doctoral	Nil
Employed	
<ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	30
Entrepreneurs	Nil

36. Diversity of staff

Percentage of faculty who are graduates of the same	
From same University	100%
from other universities within the State from	Nil
universities from other States from universities	Nil
Outside the country	Nil

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-1800 books
- b) Internet facilities for staff and students-Available
- c) Total number of class rooms - 4
- d) Class rooms with ICT facility-5
- e) Students' laboratories -2
- f) Research laboratories -Nil

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

a) from the host institution/university

- Siba Prasad Panda
- Kanhu Charan Das
- Sabyasachi Dutta
- Sweta Mishra
- Anamika Chudhury
- Ratan Ku. Acharya
- Upama Chatarjee
- G.P. Ray
- Binod Ku. Sethy
- Saswati Baliarsingh

- L.N. Padhi
- b) from other institutions/universities
40. Number of post graduate students getting financial assistance from the university.- Several students get fellowships from UGC, States Govt.
41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.-Nil
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
 - Faculties are consulted for the preparation of new curriculum to be adopted and appropriate decisions are taken.
 - b. students and staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes
 - Students feed backs are taken in to consideration ,discussed with the faculties and appropriate decisions are taken.
 - c. alumni and employers on the programmes offered and how does the department utilize the feedback?Yes
 - Views of the alumni and employers for the improvement of the quality of teaching and learning prcesses are implemented.
43. List the distinguished alumni of the department (maximum 10)
1. Mr.Bijayashree Routray,Revenue and Minister,Govt of Odisha
 2. Dr.A.P.Subudhi,Rtd Senior Scientist,IIRS,Dehradun
 3. Dr.Surendra Behera,Rtd Director Town Planning,Bhubaneswar
 4. Prof.J.K.Routray,Professor ,AIT,Bangkok
 5. Mr.Gopla Dhal,IRS, Secretary,Odisha Electricity Regultory Commission,
 6. Dr. Kamal Lochan Mishra,OAS,Joint Secretary cum GM Odisha Disaster Management Authority,Bhubaneswar
 7. Dr. Dolagobinda Pradhan,Kwantlen Polytechnic University,Canada.
 8. Dr. R.Mohapatra Asst.Prof,Minosata University
 9. Dr.Ajaya Pradhan,Danish Company,Regional Director,Delhi
 10. Dr.Sarmista Swain,Neverska,USA.
44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.
- Students seminars are regularly held in the department
 - Regular field visit and training programmes on different subjects
 - Talk on GIS application in utility services, by Dr.Dologobinda Pradhan Canada.
45. List the teaching methods adopted by the faculty for different programmes.-
- Black board teaching demonstration
 - OHP is used to demonstrate in the class
 - PPT presentation

- Class room interaction with the students to get feedback.
 - Use of Practical instruments by the students.
 - Use of cartographic equipments for the preparation of maps and diagrams
 - Mid semester examinations
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
- Students are regularly asked about their difficulties and steps are being taken to solve their problems.
 - Students seminar presentations
 - Mid term examinations
 - Regular question answer in the class to get feedback from the students
47. Highlight the participation of students and faculty in extension activities.
- Campus cleaning work.
 - Participation in cricket matches in the campus
 - Participation in cultural programmes like Nuakhai etc
 - Participation in debate,quiz,essay competition etc.
48. Give details of “beyond syllabus scholarly activities” of the department.
- Students and teachers participate various talks organized by various departments of the University.
 - Department organizes to celebrate important days like Teachers day, Earth day, Science day, Environment day etc.
 - Contribute research articles in national and international journals, magazines.
49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. Yes UGC-DRS.
50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied. –
- Faculty members are doing research in various frontier areas like disaster management, climate change, watershed management, landuse, urban planning, environmental planning thus the outcome becomes very beneficial for the society.
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.
- Strengths:
- We are getting more than 100 applications fro P.G, more than 30 for M.Phil, more than 20 for Ph.D. and more than 30 for P.G.D.in RS &GIS which shows that demand for geography is very high even students from neighboring states are applying for admission every year. This year a student from Andaman and Niccober applied for P.G. admission.
 - Students are getting jobs plentily in the teaching lines particularly English medium schools
 - Students are employed in town planning, remote sensing and GIS applications in water resources, forest, coastal zone management, health, Municipalities,

Census of India, Indian council of Agricultural research, In non governmental organizations as environmental planners etc.

- There is heavy demand in the fields of remote sensing and GIS ,we are unable to provide adequate number of manpower in this sector which is ever growing.

Weaknesses :

- Inadequate faculties-Faculty members have been reduced that hampers quality teaching and research.
- Inadequate Supporting staffs like research assistant, cartographer, store keeper, seminar librarian and computer lab technicians.
- Inadequate rooms for research laboratory, students common room, geography museum
- Upgradation of the conference room
- Need budgetary provisions for field work
- Budgetary provisions for upgradations of laboratories

Opportunities :

- Vast scope exist ahead to generate well trained manpower to take up challenges in the society.
- Disaster management is a frontier area which we can produce manpower trained in disaster management particularly in Odisha which is suffering heavily almost annually by cyclone,flood,drought,
- Remote sensing and GIS scopes are multiplying in every in almost all fields,we can generate more well trained manpower to man various need of the society.Govt,Non Govt,Companies etc.
- Coastal zone management plays a significant role in Odisha as Odisha has significant length of coast which is very much vulnerable.
- Climate change and its impact is a burning theme today ,geographers with adequate skill in climatology can help in providing appropriate guidelines for sustainable planning.
- Planning for both rural and urban bears very important role in national development by effective resource management ,we are producing manpower as many students of this department are working as town planners in the state and outside.
- There are also innumerable fields which we can contribute like population, health, agriculture, tourism, tribal studies,industrial development,transport planning etc

Challenges :

- To produce quality manpower for the needs of the society
- Quality faculty with adequate and indepth research background
- Adoption of advance technology in research
- Need based syllabus to be upgraded regularly
- Our students must compete with other related disciplines by incorporating relevant course.

- More interdisciplinary research is the need of the hour
 - Generation of data bank for easy reach for the students and teachers
 - Regular field study for first hand observation
 - To make the department as a centre of excellence
52. Future plans of the department.
- Collaboration with ORSAC, SAC, NRSC, NATMO, IMD, CDA, ICZM, Tourism dept, Tribal Department
 - Master degree programme in Disaster management
 - Master degree in Geoinformatics
 - Special papers on
 - Coastal Geomorphology and Integrated coastal Zone management
 - Applied Hydrology
 - Fluvial Geomorphology
 - Natural Disaster management
 - Applied climatology
 - Population Geography
 - Agriculture Geography
 - Medical Geography
 - Soil Geography
 - Tourism Geography
 - Tribal geography
 - Industrial Geography
 - Digital cartography
 - Advanced Instrument Survey.

Research Publications :

2010

Peer review Journal

1. Waste land mapping, analysis and management in the Rushikulya basin using Remote Sensing technique "National Geographical Journal of India, vol-56, June 2010, Department of Geography, BHU, Varanasi, pp-77-84, ISSN-0027-9474/2010/1344-1354, D. Panda
2. Human risk due to cyclone hazards in Odisha: a district level analysis, 2013, *Asian Academic research* No.-III, August, 2010, Pp. – 7-11, Bhubaneswar, ISSN No. 0976-4100. Utility of Remote Sensing and GIS for Sustainable Marine Fishery Management, 2010, Emerging Science, Vol.-11, G.K. Panda
3. Shore Processes and Changing Morphology of the Landforms along the Orissa, 2010, *Practicing Geographer*, (Journal of the Indian Geographical Foundation), Vol.-14, No. -1, Pp. – 1-11, Kolkata, West Bengal, ISSN No. - 0975-3850 G.K. Panda

4. Human Vulnerability and Risk of Flood Hazards in Odisha, A Multivariate Regression Analysis, 2010, *Journal of Empirical Research in Social Sciences*, Vol. 5, No. 1-2, Pp. 01-14, ISSN No. 0973-2985.G.K.Panda

2011

1. Geological and Geomorphological Determinants of Fluoride Endemicity: A case study of Bolagarh Block in Khurda District, Odisha, India *Eastern Geographer*, Vol-XVII, No-1 2011 ISSN-0973-7642 K.C.Rath
2. Urban Poor and Physical Accessibility to Government Allopathic Dispensaries: A GIS Based Case Study of Bhubaneswar in Eastern India *International Journal of Geoinformatics*, Vol. 7, No. 2 ISSN- 1686- 6576, 2011 K.C.Rath

Proceeding Volume :

1. Changing Topography and Shoreline of the major river mouths along the east coast of India – A case study of the Mahanadi river mouth area, 2011, *Proceedings of the National Seminar on Coastline erosion and irregularity in monsoon rain in Odisha and its effect on Bio-diversity, Capture Fishery and Agricultural Productivity*(Ed) (Sponsored by the Ministry of Earth Sciences, GoI,) AABAHANA, Khurda, Odisha.G.K.Panda

2012

1. Landuse Dynamics along Natural Drainage Channels and Its Impacts: A case study in part of Bhubaneswar City in Eastern India *Eastern Geographer*, Vol-XVIII, No-1 ISSN-0973-7642 2012, K.C.Rath
2. Modelling Urban Growth in Indian Situation- A Case Study of Bhubaneswar City, 2012, *International Journal of Scientific & Engineering Research*, Vol. - 2, No -6, <http://www.ijser.org>, ISSN No.- 2229-5518, (2012-13 Impact factor- 1.4).G.K.Panda
3. Linkages between Agriculture and Forest: Case Study from three tribal villages located in a Biosphere Reserve of India, 2012 (Liens entre Agriculture et Forêt : cas d'étude de trois villages tribaux situés dans une réserve naturelle en Inde.), *Geo-Eco-Trop.*, 36: 39-48, Berlin.G.K.Panda
4. The Prevalence of Anaemia Among Reproductive age group(15-45yrs) women in a PHC of Rural Field Practice Area of MM Medical College, Ambala, India, 2012, *International Journal of Womens Health Care*, Vol. – 1, No. -3, ISSN No. – 2167-0420, Ref. No1000113, Impact Factor 1.889.G.K.Panda
5. Assessment of Human Risk of Lightning Hazards in Odisha- A Time Series Analysis, 2012, *Indian Journal of Preventive and Social Medicine*, Vol. 43, No.-3, Pp. 274-278, ISSN 0301-1216 G.K.Panda

Edited Book :

1. Reducing Child Mortality: Progress and Challenges of Achieving MDG Modelling Human Vulnerability and Pattern of Human Risk of Cyclone Hazards in Odisha, 2012, *Population, Reproductive and Child Health- Perspectives and Challenges* (Ed. Somayajulu, U.V, Kar, R, Panda, G. K, Mishra, P & Singh, K. K), Pp. 337-356, Serial Publications, New Delhi, Pp.337 -356, G.K.Panda

2. Modelling Human Vulnerability and Risk of Epidemics Hazards Using Multiple Regression, Analysis – A Case Study of Odisha, 2012, Population, Reproductive and Child Health- Perspectives and Challenges (Ed. Somayajulu, U.V, Kar, R, Panda, G.K, Mishra, P & Singh, K. K), Pp. 446-459, Serial Publications, New Delhi.G.K.Panda
3. Women Representation in Local Self Government: A Districtwise Spatial Study of Odisha” in “Social Exclusion & Gender: Some Reflections Social Exclusion & Gender: Some Reflections, Abhijit Publications ISBN-978-93-5074-001-9 2012 K.C.Rath

2013

1. “Rainfall variability analysis of the Rushikulya basin"Indian Journal of Landscape systems and Ecological studies ,vol- 36,June 2013,Department of Geography,Calcutta University,Kolkata.pp-27-37,ISSN-0972-4170 D.Panda
2. Fluoride Endemicity Contrasts In Shallow And Deeper Aquifers:A case study of Bolagarh Block in Khurda District, Odisha, India International Journal of Earth Science & Engineering, Vol 6, No 5 (1), October 2013 ISSN- 0974-5904 K.C.Rath

Edited Book :

1. Kolkatta, ISBN No.- 978-81-8064- Odisha using Multivariate Regression Analysis, 2013, *Resources And Development- Issues and Concerns (Ed)*, Pp. 37-50, Progressive Publishers 252-4. G.K.Panda
2. Modeling Urban Growth in Bhubaneswar City, 2013, *Challenges of Urbanisation by 21ST Century : Planning and Governance* (Ed. Kalpana Markenday), Vol.-3, Pp.- 36-46, Concept Publisher, New Delhi, ISBN No.- 9788180699474.G.K.Panda
3. Kolkatta, ISBN No.- 978-81-8064- Odisha using Multivariate Regression Analysis, 2013, *Resources And Development- Issues and Concerns (Ed)*, Pp. 37-50, Progressive Publishers 252-4. G.K.Panda

2014

1. Brick Kilns and Environmental Issues in the River Banks of periurbanBhubaneswar city, India Eastern Geographer, Vol-XX, No-1 ISSN-0973-7642 2014 K.C.Rath

Edited Book :

1. Waste land mapping,analysis and management of the Rushikulya Basin"Edited volume of Managing Natural Resources by H.N.Mishra ,Department of Geography,Allahabad University,Allahabad.pp-147-156, ISBN-978-81-203-4933-9,2014 D.Panda
2. Assessing Human Risk of Flood Hazards in Odisha, India Using Multiple Regression Analysis, 2014, *Spatial Diversity and Dynamics in Resources and Urban Development (Regional resources)*, Vol.- 1, Ed. Dutta, A.K & Noble, A, Springers, London.G.K.Panda
3. A Conceptual Model for the Geomorphic Evolution of the Shore and Off-shore Landforms along the East Coast of India,2014, *Geo-Resources* (Ed), Srivastava K.L & Arun Kumar Et.el., Scientific Publishers India, New Delhi, ISBN No. 978-81-7233-895-G.K.Panda

4. Assessing Human Risk of Flood Hazards in Odisha, India Using Multiple Regression Analysis, 2014, *Spatial Diversity and Dynamics in Resources and Urban Development (Regional resources)*, Vol.- 1, Ed. Dutta, A.K & Noble, A, Springer, London. G.K.Panda

2015

1. Draynage and Floodsin the Subarnarekha Basin in Paschim MEDINIPUR, West Bengai, India – A study in Applied Geomorphology, 2015, *International Journal of Science and Research,(IJSR)*, Vol. – 4, Issue -5, ISSN No.- 2319-7064, Impact Factor (2013)- 4.438, Index Copernicus (2013) – 6.14 G.K.Panda.
2. Geo-Informatics Based Sustainable Cadastral Level Watershed Planning _ A case study of Kundeimal Micro Watershed, Bolangir District, Odisha, India, 2015, *International Journal of Scientific and Research Publications, Print Version, Vol-5, Issue 7, July 2015,, ISSN No. 2250 3153, IJSRP*, www.ijsrp.org. G.K.Panda
3. Geo-spatial Technology Based Catchment Treatment Planning – Case Study of Sandul Irrigation Project Catchment, 2015, *SJAT Bulletin, Journal of the Society of Geoscientists and Allied Technologies*, Vol. -16, No. – 1, Bhubaneswar, ISSN NO.- 0972-2173. G.K.Panda

Proceedings

1. Tsunami : It's Causes and Concerns, 2015, *Proceedings Vol of the National Seminar on Probable Danger of Tsunami at Coastal Odisha, Developing Tsunami Warning System and Precautionary Measures to be Taken to Save Lives* (Sponsored by the Ministry of Earth Sciences, Govt. of India), AABAHANA, Nachuni, Khurda.

Edited Book

1. Assessment of Human Vulnerability and Risk of Flood Hazards in Odisha, India, 2015, *Advances in Environmental Sciences and Engineering*, Daya Publishing House, New Delhi, ISBN 978-93-5124-336-6 (Hardbound), ISBN 978-93-5130-300-8 (International Edition)



Post Graduate Department of GEOLOGY



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department – P.G. DEPARTMENT OF GEOLOGY
2. Year of establishment- 1954
3. Is the Department part of a School/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) - P.G., M. Phil., Ph.D., D. Sc.
5. Interdisciplinary programmes and departments involved- NA
6. Courses in collaboration with other universities, industries, foreign institutions, etc.- None
7. Details of programmes discontinued, if any, with reasons-None
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System -
 - i. M.Sc.- Semester and Choice Based Credit System
 - ii. M. Phil.- Semester
 - iii. Ph.D. Course work- Semester and one elective paper
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	2	1	2
Associate Professors/ Reader	4	1	2
Asst. Professors/Lecturer	6	4	2
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
Dr. P. Behera	Ph. D.	Professor (Retd.)	Coal Geology		Ph.D. – 04 M.Phil-04
Dr. H. K. Sahoo	Ph. D.	Professor (Retd.)	Hydrogeology		Ph.D. - 08 M.Phil-04
Dr. P. Singh	Ph. D.	Professor (Retd.)	Ore Geology		Ph.D. - 03 M.Phil-04
Dr. Madhumita Das	Ph.D.	Professor	Igneous Petrology, Industrial minerals, Hydrogeology	35 years	Ph. D. – 02 M. Phil.- 05
Dr. Rabindra Nath Hota	D. Sc.	Professor	Sedimentology, Geostatistics and Groundwater	29 years	Ph. D. – 03 M. Phil.- 04

Dr. D.S. Pattanaik	Ph.D.	Reader and Head	Coal Geology, Hydrogeology, Remote sensing	26 years	Ph. D. – 04 M. Phil.- 05
Dr. B.K. Rath	Ph.D	Reader	Ore Geology, Environmental Geology	28 years	Ph.D.-Nil M.Phil-04
Dr. Devananda Beura	Ph.D.	Lecturer	Ore Deposit, Structural Geology, Disaster Management	11 yrs	Ph.D.-02 M.Phil-05
Mr. K.R. Mallick	M.Sc.	Lecturer	Micropaleontology, Biostratigraphy, Paleooceanography	4 yrs	Ph.D.-Nil, M.Phil-Nil

12. List of senior Visiting Fellows, adjunct faculty, Emeritus professor, Visiting professors -4
Prof. H.K. Sahoo – Emeritus Professor
Prof. P.P. Singh– Emeritus Professor
Prof. P.Behera– Emeritus Professor
Prof. G.S. Lenka – Visiting Professor
13. Percentage of classes taken by temporary faculty – programme-wise information
2010-2014- Nil
2014-15
M.Sc-20%
M.Phil-15%
14. Programme-wise Student Teacher Ratio
M.Sc.-6:1
M.Phil: 2:1
Ph.D. course work-2:1
15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled	Actual
Administrative staff	3	2	2
Lab Attendant	5	3	3
Helper	1	1	1
Museum Curator	1	-	-
Store Keeper	1	-	-
Photographer	1	1	1

16. Research thrust areas as recognized by major funding agencies
Ore Geology
Environmental Geology
Gondwana Geology

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

Sl. No	Title of the Project	Funding Agency	Amount (Rs. in Lakhs)	Duration	Principal Investigator
1	DRS-II	UGC	7.0 (Sanctioned -75.0)	2012-17	Prof. M.Das Co-ordinator
2	FIST	DST	50.8 Sanctioned- 69.3	2012-17	H.O.D- Co-ordinator

b) International: NIL

Sr. No	Title of the Project	Funding Agency	Amount in Rs. (in Lakhs)	Duration	Principal Investigator

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration – 2

b) International collaboration - Nil

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

DST-FIST-50.8 Lakhs

UGC-SAP/CAS- 7.0 Lakhs

PURSE- 55 Lakhs

20. Research facility / centre with

- state recognition
- national recognition- UGC-DRS-II, DST-FIST-1, PURSE
- international recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies
Geological Museum-Renovated by Tata Steel as a part of Corporate Social Responsibility Auditorium/Seminar Hall- Constructed by Odisha Mining Corporation and renovated by Alumni Association

22. Publications: 183 (Details in Annexure – 1)

- Number of papers published in peer reviewed journals (national / international) – 142
- Conference Proceedings-19
- Monographs -Nil
- Chapters in Books-11
- Edited Books-5
- Books with ISBN with details of publishers-06
- 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-1-18

- SNIP
 - SJR-0.17
 - Impact Factor – range / average 0.04-8.25
 - h-index-4
23. Details of patents and income generated Nil
24. Areas of consultancy and income generated- Geoenviromental Studies-210000/- (By OMDC)
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad-Nil
26. a) Faculty serving in National committees b) International committees c) Editorial Boards d) any other (please specify)

Prof. Madhumita Das
1. National Working group Member, IGCP--597 (International Geological Correlation Programme) Amalgamation and Breakup of Pangaea: the type example of the supercontinent cycle, 2011-2015
2. Member, Editorial Board, Science horizon, Odisha Bigyan Academy
3. Member, Editorial Board, Journal of Sustainable Planet
4. Subject Expert, Geology, Syllabus Committee, IGNOU
5. Executive Member, IAPG-INDIA, 2015-2018
6. CCS(Corresponding Citizen Scientist) of the IAPG (International Association for Promoting Geoethics) on “Geoethical aspects in low income countries”
Dr. Devananda Beura
1. PAC Member, Rock Art Division, IGNCA, Ministry of Culture, Govt. of India, New Delhi
2. Editorial Board Member- Journal of Geosciences and Geomatics, USA
3. Editor-Earth Science-Emerging Science

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

M. Das

Brisbane, Australia	34th International Geological congress	Environmental Geology	2012
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D.S Pattanaik

P.G. Dept. of Geology, Utkal University	DST sponsored Summer Training Programme	Geospatial Technologies and its applications	2012
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D. Beura

UGC Staff Academic College, Utkal University	Faculty Development Programme	Multidisciplinary	2012
I.P.G. Dept. of Geology, Utkal University	DST sponsored Summer Training Programme	Geospatial Technologies and its applications	2012
Asian Institute of Technology, Bangkok and University of Hawaii and	Asia Pacific Initiative Course on “Disaster Management	Disaster Management and Humanitarian Affairs	2012

NISWAS, Bhubaneswar	and Humanitarian Affairs”		
Microsoft and National Mission on Education through ICT	Saksham-IT Champion Training Programme	Information Technology	2012

B.K. Rath

P.G. Dept. of Geology, Utkal University	DST sponsored Summer Training Programme	Geospatial Technologies and its applications	2012
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K.R. Mallick

Department of Educational Technology and Utkal University	Workshop on ‘Integrating ICT in Higher Education		2015
University of Delhi	UGC sponsored Orientation Programme at CPDHE, Delhi University	Academic staff College	2014

- Refresher Course conducted: 1(From 28.09.2015 to 18.10.2015)
- Conference/Workshop conducted: 9
- First DST – INSPIRE programme of Utkal University was organised by the Dept. from 3 – 7 Oct. 2013

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects –M.Phil-100% within dept.
- percentage of students doing projects in collaboration with other universities / industry / institute –M.Sc. - 100% in collaboration with OMC, IMMT, ORSAC, Geoenvitech, ESSEL Mining, IRE and Coal India Ltd.

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

- Faculty-

Prof. M. Das	DAAD, Germany
Prof. R.N. Hota	UGC Research Awardee

- Doctoral / post-doctoral fellows-NIL
- Students-1st position in All India Mineral Quiz organized by SGAT

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

Name	Convenor/Organising Sec	Date	Funded by	Outstanding participants
National Sem	Prof. R. N. Hota	2015	Alumni Association	Prof. D.P Kuity, R S Sukla Univ. R.N. Padhi, Dy DG, GSI Prof. V. Sudarsana, Osmania Univ.
DRS Sem	Prof. M. Das	2015	UGC	Dr. N. K. Sukla, Chief Hydrologist, RWSS, Govt. of Odisha

International sem	Prof. M. Das Dr. D. Beura	2014	AGID NALCO OMC	Dr. Mike Katz, NSW, Australia Dr. E. Ekon, Geological Survey, Bangladesh Dr. Zakir Hussain, Dhaka Univ. Prof. K.P. Sharma, Guahati Univ.
National Sem	Prof. R. N. Hota	2013	Alumni Assso, UGC	Dr. Pooja Shirole, Pune Univ. Prof N. Subba Rao, Andhra Univ. Prof. K.C. Sahu, IIT, Bombay
National Sem	Prof. R. N. Hota	2012	Alumni Assoc; OMC	Prof. K.C. Sahu, IIT, Bombay Prof. V. Sudarsana, Osmania Univ Prof D. K Bhattacharya, Ranchi Univ.
Odisha Bigyan Congress	Prof. P. Singh	2012	ISCA, Odisha Chapter	Prof. A.S. Venkatesh, ISM, Dhanbad Prof. S. Acharya, Former VC, Utkal Univ.
DRS	Dr. D. Beura	2011	DRS	Prof. Devesh. K. Sinha, Delhi Univ. Dr. G.C. Pati, Regional Director, CGWB Dr. S. B. Ray, Director, GSI
National sem	Dr. D.S. Pattanaik	2011	Alumni Assco, UGC	Prof. S.K. Pande, Raipur Uni Prof. B.K. Sahu, IIT, Bombay Prof. S. Das, IIT, Kharagpur
National sem	Prof. R. N. Hota	2010	Alumni Assco, UGC	Prof. K.C. Sahu, IIT, Bombay Prof. S. Das, IIT, Kharagpur Dr. B.K. Mohapatra, Chief Scientist, IMMT Dr. B. C. Acharya, Head, Environment Div, IMMT

31. Code of ethics for research followed by the department- As per University norm

32. Student profile Programme-wise:

Name of the Programme (refer to question no. 4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
2015-16					
M.Sc.	185	15	10	Continuing	
M.Phil	23	3	7		
Ph.D.	35	3	13		
2014-15					
M.Sc.	174	14	11	80	100
M.Phil	45	6	1	100	100
Ph.D.	35	8	8		
2013-14					

M.Sc.	194	15	11	100	100
M.Phil	22	0	8	100	100
Ph.D.	29	3	2		
2012-13					
M.Sc.	156	13	12	100	100
M.Phil	28	2	8	100	100
Ph.D.	28	5	3		

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
M.Sc.	20	80	-	-
M.Phil	90	-	10	
Ph.D.	90	-	10	

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.
Civil Services Exam. (U.P.S.C.) – Himadri Bhushan Sahu (01), UGC-NET- 20, GATE- 05, Geologists' Exam. (U.P.S.C.) - 30

35. Student progression

Student progression	Percentage against enrolled
UG to PG	N.A.
PG to M.Phil.	30
PG to Ph.D.	10
Ph.D. to Post-Doctoral	N.A.
Employed	
• Campus selection	10
• Other than campus recruitment	70
Entrepreneurs	

36. Diversity of staff

From other universities within the State	Nil
From Universities from other States	50
From Universities outside the country	Nil

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

D.Sc.-1

Ph.D.-0

38. Present details of departmental infrastructural facilities with regard to

- Library –Dept Library-1, Seminar Library-1
- Internet facilities for staff and students - Available
- Total number of class rooms-4
- Class rooms with ICT facility-Nil, However, LCD projector is available
- Students' laboratories -6

- f) Research laboratories-4
39. List of doctoral, post-doctoral students and Research Associates
 Doctoral Students:

(a) From the University: 31

List of Ph. D. Awardees	
2010	Dr. (Mrs.) S. Sahoo
2010	Dr. A. K. Tyagi
2010	Dr. A. K. Sarangi
2011	Dr. S. Nayak
2011	Dr. P. K. Mallick
2011	Dr. R. K. Mishra
2011	Dr. S. P. Rout
2011	Dr. A. Senapati
2011	Dr. R. K. Nayak
2012	Dr. A. K. Mohapatra
2012	Dr. N. K. Shukla
2012	Dr. (Mrs.) N. Mahanta
2012	Dr. (Mrs.) S. A. Jena
2012	Dr. (Mrs.) Rosalin Das
2012	Dr. N. C. Nayak
2012	Dr. J. K. Sahu
2012	Dr. B. K. Das
2012	Dr. (Mrs.) M. Sahoo
2013	Dr. D. K. Kar
2013	Dr. B. Mishra
2013	Dr. (Mrs.) S. Behera
2013	Dr. S. N. Kundu
2013	Dr. K. M. Nayak
2013	Dr. K. Rajkumar
2013	Dr. D. K. Mishra
2014	Dr. (Mrs.) S. Jena
2014	Dr. (Mrs.) A. G. Nath
2014	Dr. S. Dayal
2014	Dr. B. Satapathy
2015	Dr. A.A. Pradhan

- (b) From other Institutions/ Universities: about 15
40. Number of post graduate students getting financial assistance from the university-22
41. Was any need assessment exercise undertaken before the development of new programme (s)? If so, highlight the methodology. NA

42. Does the department obtain feedback from
- faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes, curriculum is restructured on this basis.
 - students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes, necessary changes are effected in the curriculum and teaching method as per their feedback.
 - alumni and employers on the programmes offered and how does the department utilize the feedback? Alumni are actively associated in different academic programmes such as seminars, field tours and give necessary feedback which are given due weightage.

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

1	Prof. N. K. Mahalik, Retd. Professor, Utkal University
2	Dr. R.N. Mishra, Retd. Dy. D.G., GSI
3	Mr. P.N. Nayak, Retd. Dy. D.G., GSI
4	Mr. Lokanath Sarangi, IRTS (Retd.)
5	Mr. Pradeep Kumar Jena, IAS, Odisha
6	Mr. Satyajit Mohanty, IPS, Odisha
7	Prof. Mrugank Panigrahi, IIT, Kharagpur
8	Dr. B.K. Mohapatra, Retd. Chief Scientist, IMMT
9	Mrs. Smita Das, Retd. Director, Geology, Odisha
10	Mr. Rajat Kumar Mishra, IAS, Rajasthan

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

Students' seminar is held on Thursdays.

Special lectures were delivered by following eminent persons:

- Prof. Dr. P. K. Jena, Ex- Director General, CSIR, Chairman, Institute of Advance Technology & Environmental Studies (IATES) 80A – 81A, Lewis Road, Bhubaneswar – 751002, Tel: 9437697999
- Prof. S.Acharya - Professor of Geology(Retd.), Former Vice Chancellor, Utkal University, 155,VIP Colony, Nayapalli,Bhubaneswar, Tel:9437131037
- Prof. M.C.Dash - Former Vice Chancellor, Sambalpur, University, and Former Chairman, State Pollution Control Board,Nayapalli,Bhubaneswar, Tel:9437209935
- Prof. Devesh Sinha, Dept. of Geology, Centre of Advanced Studies, Delhi University, New Delhi,Tel:9818546353
- Prof. U.C.Mohanty, Dept. of Atmospheric science, IIT, Bhubaneswar (Bhatnagar Awardee)
- Prof. Nachiketa .Das, Geology Department, Ravenshaw University
- Prof.S.Anbazhagan , Geology Department, Periyar University, Salem
- Prof. H.N.Bhattacharya, Geology Department, Presidency College, Kolkata
- Prof. S.Kumar, Geology Department, Kumaon University, Nainital

10. Prof. V.Sudarshan, Department of Applied Geochemistry, Osmania University, Hyderabad
11. Prof. Subasish Das, Dept. of Geology & Geophysics, I.I.T.Kharagpur, West Bengal
12. Prof. D.Sengupta, Dept. of Geology & Geophysics, I.I.T.Kharagpur, West Bengal
13. Prof. W.Mohanty, Dept. of Geology & Geophysics, I.I.T.Kharagpur, West Bengal
14. Dr. A.K.Sarangi, Director, Strategic Planning, UCIL, Jaduguda
15. Dr. P.K.Champatiray, Head, Geology Dept., Indian Institute of Remote Sensing, Dehradun
45. List the teaching methods adopted by the faculty for different programmes.
Computer aided modeling for understanding of lessons
Theory-Practical at same time
Power point presentations in classroom
Field visits
Specimen display in the class room
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
Course coverage status is taken up in Teachers' Council Meetings regularly
Mid-sem. exam papers are shown to students and guided for improvement
Weekly student seminars are conducted to observe their performance
Research outcomes are presented and discussed in seminars and workshops
47. Highlight the participation of students and faculty in extension activities.
M.Sc. Students have secured 3rd position in the PAN INDIA Debate competition at B.H.U. on Global Warming in 2014.
M.Sc. Students have participated and won National Level Quiz by SGAT in 2014.
M.Sc. Students have been attending the training programme in CGWB from 2011.
Students carry out summer training projects at different Mines, Laboratory and Industries.
Teachers regularly deliver popular scientific talks in different organizations. and Institutes.
Teachers regularly write issue based scientific columns in different Newspapers
Teachers render services as Experts, Committee Members, and Editors.
48. Give details of "beyond syllabus scholarly activities" of the department.
Weekly Student Seminar
Career Counseling
Guidance for competitive Exams.
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 done pioneering work on mineral resources of Odisha

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

Strength :

- Students of high caliber
- Committed and dedicated Faculties
- Good Results
- Very high rate of employment
- External funding like DRS, FIST, PURSE

Weakness :

- Lab. Facility
- Supporting staff deficiency
- Smart Classroom

Opportunities :

- Placement
- Research
- Self employment

Challenges :

- Counseling of students
- Training for competitive exams
- Corporate exposure
- Projects
- Consultancies

52. Future plans of the department.

Introduction of Diploma/Certificate course on Gemology

Introduction of Diploma/Certificate course on Disaster Management

Development of Rock garden

Annexure-1

2010

Peer Reviewed Journal

1. Assessment of groundwater quality of the coastal aquifers, north of Mahanadi river, Orissa, N.K. Shukla, and S. Acharya, Journal of Environmental Geochemistry, Vol.12, No. 1 and 2, pp. 1 – 10, (2010)
2. Degradation of quality of groundwater in Paradeep area, Jagatsinghpur district, Orissa, H.K. Sahoo and P. Mohapatra, International Journal of Earth Sciences and Engineering, Vol. No. 03, no.1 pp. 56 – 61, (2010)
3. Assessment of groundwater quality in Tirtol area, Jagatsinghpur district of Orissa, H.K. Sahoo and Rashmirekha Das, Vistas in Geological Research, V.9., pp.33 – 38, (2010)
4. Evolution of Charnockites of South India from Deccan type continental Basalts-A model on Trace elements distribution pattern. D.S.Pattanaik and P.Behera , Vistas in Geological Research, Vol.9, 145-153. (2010)
5. Apatite Microstructure Composition in Manganese Formation of Eastern Ghats, Orissa, India. S. Jena, B.K. Mohapatra and P.P. Singh JMMC & E, vol. 10, No.5, 408-418 (2010)
6. Prospect of Helium in Thermal Spring Gases of Orissa. S.C. Mahala, P. P. Singh, S. Acharya and M. Das, Vistas In Geological Research. Spl. Publ. in Geology (9) pp. 91-95(2010)
7. A Conceptual Approach to Solid Waste Management in Artisanal And Small Scale Mining Areas- A Case Study From Bajpur-Tapang Area In Khurda District Of Orissa, India, D. Beura and P. Singh, Vistas In Geological Research. U.U. Spl. Publ. in Geology (9) pp. 110-119. (2010)
8. Prospect of Helium in Thermal Spring Gases of Orissa, S.C. Mahala, P. P. Singh, S. Acharya and M. Das, Vistas In Geological Research. Spl. Publ. in Geology (9), 91-95(2010)
9. Factors controlling Variations in River Sediment Loads-A case study of the the Baitarani River Basin, Orissa, N. Rout and M. Das, Vistas In Geological Research. Spl. Publ. in Geology (9) 120-126 (2010)
10. Impact of Idol Immersion in Some Shallow aquifers and Proposal for Their Sustainable Management: A Case Study from Balasore, Orissa, India, S.Goswami, B.K. Swain, and M. Das, International Journal of Innovative Research in Science and Techniques, 1(2),79-85 (2010)
11. Groundwater Quality Assessment of Banki sub-division, Cuttack district, Orissa, R.Das, M.Das, A.A. Pradhan, and S.Goswami, The Bioscan, spl issue, vol-1; 35-42(2010)
12. Environmental Degradation due to Exploitation of Mineral Resources: A Scenario in Orissa, S.Goswami, M.Das, B. C. Guru The Bioscan, spl issue vol-2; 295-304 (2010)
13. Palaeoenvironment in the Mahanadi Basin: Inferences from Mesozoic plant and Ichnofossils. S.Goswami, M.Das, B. C. Guru ,The Ecoscan, 4 (1). 07-14 (2010)

14. Environmental Impact of Manganese Mining: A case study of Dubna Opencast Mine, Keonjhar District, Orissa, India. S. Goswami, J.S. Mishra and M. Das J. Ecophysiol. Occup. Hlth., 9:189-197, (2010)
15. Relationship between Net subsidence and Coal Cycle Parameters – A Statistical Appraisal from Subsurface logs of Damuda Group, Talchir Gondwana Basin, India, R. N. Hota, Mathematical Geosciences, v.42 (No.2), pp.223 – 242, (2010).
16. Cyclic Sedimentation of the Karharbari Formation, Ong-River Gondwana Basin, Orissa – Statistical Assessment from Subsurface Data, R. N. Hota, A. G. Nath, and W. Maejima, Jour. Ind. Asso. of Sedimentologists, v. 29 (No.1), pp.1-12 (2010).
17. Cyclic Sedimentation of the Barren Measures Formation (Damuda Group), Talchir Gondwana basin: Statistical Appraisal from Borehole Logs, R. N. Hota and B. Das, Jour. Geol. Soc. of India, v.75, pp.549 – 559 (2010).
18. Spatial distribution of Roundness of Pebbles Overlying the Lower Gondwana Rocks of the Talchir Basin, Orissa, R. N. Hota, Vistas in Geological Research, Spec. Publ. in Geol. (No. 9), Utkal University, Bhubaneswar, pp.39-44 (2010).
19. Coal Correlation and Intrabasinal Differential Subsidence – A Case Study from the Barakar Formation of Talchir Gondwana Basin, Orissa, R. N. Hota, Jour. Geol. Soc. of India, v.75, pp. 403 – 410 (2010).
20. Evolution of charnockites of South India from Deccan type continental basalts - A model on trace elements distribution pattern, D.S., Pattanaik, P Behera. and Rajashree Das, Vistas in Geological research, Utkal Univ. spl. Publ. in Geology (9), pp. 145-153 (2010).
21. A Conceptual Approach to Solid Waste Management in Artisanal And Small Scale Mining Areas- A Case Study From Bajpur-Tapang Area In Khurda District Of Orissa, India, D. Beura and P. Singh, Vistas In Geological Research. U.U. Spl. Publ. in Geology (9) pp. 110-119. (2010)
22. Global Warming and Geological Hazards, D. Beura, Emerging Science, Vol-II, No-7, pp.10-12. (2010)
23. Beura, D. Attracting Human Attention to Environmental Issues: A Noble Concept of World Environmental Day, D. Beura, Emerging Science, Vol-II, No-1, pp.8-11. (2010)
24. Copenhagen Summit, 2009 Fighting the Global Climate Change , D. Beura, Emerging Science, Vol-1, No-8. pp.34-38. (2010)

Conference Proceedings

1. Implementation of Mining laws for Sustainable Mineral Development: A case study of Orissa. Proc. Vol. Int Symp. on Environment Management of Mining and Mineral based Industries, S.Goswami, M.Das, A.A.Pradhan, and B.C.Guru (EMOMAMI-2010), ISBN: 978-93-80475-02-8. 157-179 (2010)
2. Management for sustainable groundwater development in Bhubaneswar and its environ, Orissa, R. Nayak, D.S. Pattanaik, N.C. Nayak and G.C. Pati, Proc.Vol. National Symposium on Water Resource Management for Sustainable Development, Bhubaneswar, 19 – 21 May, 2010, pp. 7 – 18(2010).
3. Requirement and Management of Power in Mining and Mineral Based Industries of Orissa. D. Beura and P. Singh The Indian Mineral Industry Journal, ENTMS-2010, pp.95-98. (2010)

4. Structural and Tectonic Approach in Studying the Genesis of Chromite Deposits of Sukinda Ultramafic Complex of Orissa, India. Int. Sem. On Development of Chromite Nickel and PGM Resources. D.Beura, P.Singh, S. Behera and S. Majhi Society of Geoscientists and Allied Technologists in Collaboration with Department of Steel & Mines Government of Orissa, Vol-I. pp.88-93. (2010)

Chapters in Book

Book

1. Paribesh Bigyana & Parichalana. M. Das and S. Goswami, A text book for DDCE, Utkal University, Published and funded by UNAIDS (2010)

2011

Peer Reviewed Journal

1. Assessment of Groundwater Quality in Tangi-Choudwar and Cuttack blocks of Cuttack district, Orissa, India, K. M. Nayak and H. K. Sahoo, International Journal of Earth Science and Engineering, Vol.4, No.6,pp.973-985, (2011)
2. Groundwater quality evaluation of unconfined aquifers of Bhuban Block, Dhenkanal district, Orissa, India, D.K. Mishra and H.K. Sahoo, Journal of Environmental Geochemistry, Vol.14, No.1, pp. 1-10, (2011)
3. Saline-Fresh Interface in the Coastal Belt of Orissa, North of Mahanadi River, India, N.K. Shukla, H.K. Sahoo and S. Acharya, International Journal of Earth Science and Engineering, Vol.4, No.5,pp.819-830, (2011)
4. Suitability of groundwater for irrigation and industrial purposes in drought prone Panposh subdivision of Sundargarh district, Orissa, H.K. Sahoo and Ashok Kumar Naik, Vistas in Geological Research, V.10., pp.99 – 107, (2011)
5. Groundwater pollution due to urbanization with special reference to Orissa, H.K. Sahoo, Vistas in Geological Research, V.10.,pp.165 – 171, (2011)
6. Spontaneous combustibility characterization of the Chirimiri coals, Koriya dist, Chhatishgarh, India. D.S.Pattanaik, P. Behera and B.K.Singh International Journal of Geosciences, Online publication doi:10.4236/ijg.2011.23036 vol. 2, 336-347. (2011)
7. Analytical studies and coal characteristics of Karma(Ramgarh) coalfield,Jharkhand, I.M.Asadullah P. Behera and B.K.Singh, International Journal of Earth Sciences and Engineering, (ISSN 0974-5904) Vol 3, No.06, 99-101 (2011)
8. Possible threat of trace elements in groundwater due to mining in Talcher Coalfield Area, Orissa, P. Behera and A.R. Senapaty : Vistas in Geological Research, Vol.10,2011 pp. 82-91(2011)
9. Detrital Type Manganese Ore Bodies in the Iron Ore Group of Rocks, Orissa, Eastern India. B.K. Mohapatra, P.P. Mishra and P. Singh , Lithology and Mineral Resources, v. 46, No.1, 30-40 (2011)
10. Cobalt- Bearing Grunerite in the Metamorphosed Banded Iron Formation in Orissa, India. P. K. Nayak, B.K. Mohapatra, P. Singh and R. K. Martha ,Resource Geology, vol. 61, no. 3, 281-289(2011)
11. Hydrogeochemistry of Banki Subdivision, Cuttack District Orissa.R. Das, M. Das, A. A. Pradhan and S.Goswami UGC-DRS special publication in Geology, Utkal Univ. 2, 18-28(2011)

12. Impact of Mining on Soil Quality: A Case Study from Hingula Opencast Coal Mine, Angul District, Orissa BK Swain, S. Goswami and M.Das Vistas in Geological research, 10:77-81.(2011)
13. Provenance Variability during Damuda Sedimentation in the Talchir Gondwana Basin, India – A Statistical Assessment, R. N. Hota, B. Das, M. Sahoo and W. Maejima, International Journal of Geosciences, v.2 (No.2), pp.120-137 (2011).
14. Cross-Association analysis of lithologies and microfacies of two borehole sections of the Karharbari Formation, Talchir Gondwana basin, Orissa, R. N. Hota and Rakesh Deepankar, Vistas in Geological Research, Spec. Publ. in Geol. (No. 10), Utkal University, pp.1-7 (2011).
15. Estimation of groundwater resources of Bhubaneswar urban area, Orissa, D.S. Pattanaik, and R. Nayak, Vistas in Geological research, Utkal Univ. spl. Publ. in Geology (10), pp. 121-125. (2011).
16. Detection of seafloor channels using bathymetry data in Geographical Information systems, S.N. Kundu, and D.S. Pattanaik, International Journal of Geomatics and Geosciences, vol. 1, No. 4, pp. 821-827 (2011).
17. Spontaneous combustibility characterization of the Chirimiri coals, Koriya district, Chhattisgarh, India, D.S. Pattanaik, P. Behera, and P.Singh, International Journal of Geosciences, vol. 2, pp. 336-347 (2011).
18. Mapping onland river channels up to the seafloor along the west coast of India, S.N. Kundu, and D.S. Pattanaik, Current Science, vol. 101, No. 7, pp. 958-961(2011).
19. Petrography of Chirimiri coals and its relation to spontaneous combustion susceptibility, D.S. Pattanaik, International Journal of Earth sciences and Engineering, vol.4, No.6, pp. 1059 – 1066 (2011).
20. Factor analysis for revealing hydrochemical characteristics of post- monsoon water of iron-manganese belt of Bolani and Barbil, Orissa. B.K. Ratha and B.K.Nayak, Vistas in Geological Research,UU.Spl. Publ. In Geology Vol.10, pp 158-164. (2011)
21. Studies on some Geological variations of Chromite deposits of Sukinda Ultramafic Complex of Orissa, D. Beura and S. Behera, Vistas In Geological Research. U.U. Spl. Publ. in Geology (10) pp. 137-143. (2011)
22. Mining threat to forest resource, D. Beura, Emerging Science, Vol-III, No-12, pp.26-28. (2011)
23. The Tsunami Disaster, D. Beura, Emerging Science, Vol-III, No-4, pp-6-9. (2011)
24. Planktic Foraminifera as tracers of Ocean circulation and Climate,K.R Mallick, Vistas In Geological Research. U.U.Spl.Publ. in Geology. (2011)

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1. Beach erosion,causes and effects with special emphasis on Puri coast P. Behera and S.Sarangi :,DRS-PURSE SPL.PUBLICATION IN GEOLOGY,pp-115-125(2011)
2. Textural characteristics of the core sediments in Sundarban area,West Bengal, K.Rajkumar, P. Behera, AL.Ramanathan & S.Sarangi ,DRS-PURSE spl.publication in geology,82-91. (2011)
3. Ground water regime of Bhubaneswar : its development and quality aspects with special reference to Orissa, R. Nayak and D.S. Pattanaik, Proc. Vol., SAP (DRS)

seminar on Groundwater, Dept. of Geology, Utkal University, Bhubaneswar, 28 March, 2011, pp. 56 – 59 (2011).

4. Impact of tectonics and technogenesis on hydrogeology of ore deposits and its management in mining areas. D. Beura and P. Singh Proc. Vol., DRS seminar on Groundwater. pp. 29-34(2011)

Chapters in Book

Books

1. Aama Paribesha: Kichi katha Kichi byatha. D. Beura, Ezy's Publication, Bhubaneswar, pp.96.(2011)
2. Banya O Anyanya Kavita. D. Beura, Kalingaprabha Prakashani, Cuttack, pp.64 (2011)

2012

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1. Remote Sensing Studies in Delineating Hydrogeological Parameters in the Drought-prone Kuchinda-Bamra Area in Sambalpur district, Odisha N. Mahanta and H.K. Sahoo, International Journal of Earth Science and Engineering, Vol.5, No.6, pp. 1578 – 1583, (2012)
2. Assessment of groundwater quality for irrigation in the tribal dominated area of Kuchinda – Bamra in Sambalpur district, Odisha N. Mahanta and H.K. Sahoo, International Journal of Earth Science and Engineering, Vol.5, No.5, pp. 1229 – 1234, (2012)
3. Mode of formation of beach sand deposits and characterization of zircon in Gopalpur – Chhatrapur area of Odisha, U.N. Sahoo, P.K. Das, B. Mishra, B.K. Panda and H.K. Sahoo, Journal of Environmental Geochemistry, Vol.15, No.2, pp. 31-35, (2012)
4. Hydrogeochemistry of Kendrapara town and its adjoining areas in Kendrapara district, Odisha, India, H.K. Sahoo and Baniranjan Mishra, Journal of Environmental Geochemistry, Vol.15, No.1, pp. 15-20, (2012)
5. Hydrogeochemical evaluation and ground water pollution studies around Kalinganagar industrial complex, Jajpur district, Odisha, D.K. Kar and H.K. Sahoo, Journal of Environmental Geochemistry, Vol.15, No.1, pp. 25-30, (2012)
6. Groundwater resources and its management in the drought-prone area of Panposh subdivision in Sundargarh district, Odisha H.K. Sahoo and A.K. Naik, Vistas in Geological Research(ISBN:81-900907-0-4), UU Special publication in Geology, Vol.11, pp.32 – 40, (2012)
7. Hydrogeochemical evaluation of Khordha town and its adjoining areas in Khordha district of Odisha in Vistas, H.K. Sahoo and Susmita Sahu, Geological Research (ISBN:81-900907-0-4), UU Special publication in Geology, Vol.11, pp.41 – 49, (2012)
8. Concentration and Distribution of Trace elements in different coal seams of the Talcher Coalfield, Odisha, A. Senapati and P. Behera : International journal of Earth Sciences and Engineering, Vol. 5, No. 180-187,(2012)
9. Preliminary studies on the characterization of clay minerals in the Sunderban mangrove core sediments, West Bengal, Rajkumar.K and P.Behera,Arabian Journal of Geosciences, ISSN 1866-7511,Arab J Geosci, DOI 10.1007/s12517-012-0787-z.

10. Study of selected trace elements in coal and ground water of the Ib-valley coalfield of Odisha, India and their possible impact on human health, A. Senapati and P. Behera, International Journal of Earth sciences and Engineering, 1241-1248 (2012)
11. Assessment of spontaneous combustion of the Ib-valley coals, Odisha, India, by Infrared Spectrometric Analysis, P. Behera, International Journal of Earth Sciences and Engineering, 2012, 1208-1214 (2012)
12. Distribution of trace elements in the coal seams and their possible contamination to ground water in the Ib- Valley coal field area, Odisha. P. Behera and A. Senapati Vistas in Geological Research, U.U Spl. Publ. in Geology, No 11, 99-109 (2012)
13. Mine reclamation and management practices-A case study for Sarda Mines, Barbil, Keonjhar, Odisha Vistas in Geological Research, P. Behera and A. Mohapatra : U.U Spl. Publ. in Geology, No 11, Jan 2012, pp. 110-118 (2012)
14. Studies on Petro-micrography of BIF In Eastern Limb of Bonai-Keonjhar Belt with Special Reference to Banspani-Jilling-Jajang Area of Keonjhar District, Odisha, D. Beura, B. Satpathy and P. Singh, Vistas In Geological Research. U.U. Spl. Publ. in Geology (11) pp. 159-167. (2012)
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3. Hydro-geochemistry and groundwater quality assessment for irrigation purpose in and around Rayagada Town, Odisha, India. S. K. Sahu, R. Das, M. Das, M. Das and S. Goswami International Journal of Earth Science and Engineering Vol. 8 , No. 02 611-616(2015)

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Post Graduate Department of
MATHEMATICS



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department: P.G. DEPARTMENT OF MATHEMATICS
2. Year of establishment: 1966
3. Is the Department part of a School/Faculty of the University? Faculty of Science.
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.)
M.A. /M.Sc., M .Phil., Ph.D., and M.Tech. (Computer Science)-Self Financing
5. Interdisciplinary programmes and departments involved :
The following self financing programmes are successfully running since 1999 under the School of Mathematics-Statistics-Computer Science consisting of P.G. Department of Mathematics, Department of Statistics and Department of Computer Science and Applications.
 - M.Tech. (Computer Science)
 - M. Sc. (Computer Science)
 - 5 Yr. Integrated MCA.
6. Courses in collaboration with other universities, industries, foreign Institutions, etc.: No
7. Details of programmes discontinued, if any, with reasons.: NA
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System.
 - M.A./M.Sc. : Semester System (Choice Based Credit System)
 - M.Phil. : Semester System
 - Ph.D. : One Semester Course Work
9. Participation of the Department in the courses offered by other Departments. Yes.
 - The syllabus for Post Graduate programme under CBCS has been developed and following courses are offered for other Departments.
 - (i) Discrete Mathematics.
 - (ii) Number Theory & Cryptography.
 - (iii) Theory of Computations.
 - (iv) Geometry of Fractals.
 - Dr. S. Dutta offered a Course on Computational Graph Theory for the Department of Computer Science & Applications, Utkal University.
 - After the introduction of choice based credit system in 2013 in the Post Graduate Programme, there is a participation in teaching between the P.G. Department of Mathematics and the Department of Statistics, Utkal University.
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others):

No. of posts sanctioned : 10

No. of posts kept in abeyance : 03

Present strength : 04

Name of the Post	Sanctioned	Filled	Actual including CAS & MPS
Professor	03	01	01+01(CAS)=02

Associate Professor/Reader	05	01	01(CAS)
Assistant Professor/Lecturer	02	02	x

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

Name	Qualification	Designation	Specialization	No. of Years of Experience (Teaching & Research)	No. of Ph.D./M.Phil. Students guided for the last 04 yrs.
Dr. J. Patel	Ph. D.	Professor	Complex Analysis	33 Yrs.	Ph.D.-02 (submitted) M. Phil.-10
Dr. N. Das	Ph. D.	Professor	Operator Theory	28 Yrs.	Ph.D. -03 M. Phil.-12
Dr. S. Dutta	Ph. D.	Reader	Functional Analysis	34 Yrs.	Ph.D. -01 M. Phil.-13
Dr. A. Nath	Ph. D.	Lecturer	Analysis	19 Yrs.	M. Phil.-14

- 12.** List of senior Visiting Fellows, Adjunct Faculty, Visiting Professors, Emeritus Professors.

Prof. S. Padhy	Ph.D.	Visiting Professor, Retd. Faculty, Utkal Univ.	Numerical Anal., Comput. Fluid Dynamics, Parallel Algorithms, Soft Computing, Financial Mathematics
Prof. B. K. Nayak	Ph.D.	Visiting Professor, Retd. Faculty, Utkal Univ.	Theory of Relativity, geometry of Fractals, Differential Geometry
Prof. Huzoor H Khan	Ph.D.	Visiting Professor, Aligarh Muslim Univ.	Approximation Theory, Fourier Series
Prof. B.S. Komal	Ph.D.	Visiting Professor (Retd. Faculty, Univ. of Jammu)	Operator Theory

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

- The following temporary faculty members have taken/taking classes in the M.A./M. Sc. Programme of the department from 2011- 2015.
Prof. S. Padhy (Retd.), Mrs. Bijayini Nayak, Mr. Pabitra Kumar Jena, Mr. Bimal Kumar Kar, Mr. Tofan Ku. Jena, Mrs. Mamata Parida, Mr. Jitendra Ku. Behera, Prof. B.K. Nayak (Retd.), Ms. Sushomita Mahanta, Mr. Nilambar Tripathy.
- Around 8-10 % of the course were covered by them (5yrs. Average).

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

- (i) M.A./M.Sc. : 32 : 1
- (ii) M.Phil. : 2.5 : 1
- (iii) Ph.D. : 2 : 1

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

Category	Sanctioned (actual)	Number of Vacant Positions	Number of permanent positions filled	Number of positions filled temporarily
Administrative Staff	01	01	Nil	Nil
Technical Staff	01	Nil	Nil	Nil
Class IV	02	01	01	Nil

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

- Analysis (UGC-DRS-I, II & III)
- Fluid Dynamics (UGC-DRS-I & II)

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 : UGC-DRS (SAP)

The following faculty members are working on their individual project under the UGC-DRS programme of the Department.

- Prof. J. Patel : Applications of Differential Subordination in Geometric Function Theory.
- Prof. N. Das : Operators on Bergman Space
- Dr. S. Dutta : Studies on Difference Sequence Spaces
- Dr. A. Nath : Approximation by Trigonometric Means.

Total grants received.: Rs.8,00,000/-

(b) International funding agencies and: Nil

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

- a) National collaboration : Nil
- b) International collaboration : Nil

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

Name of the Project	Funding Agency National	Period	Coordinator	Grant Received
DRS-II	UGC	2007-2012	Prof. S. Padhy	Rs.11,97,187/-
UGC-XI Plan	UGC	2007-2012	Head of the Department	Rs.8, 50,000/-
DST-PURSE	DST	2011-2015	Head of the Department	Rs.23,69,400/-
DRS-III	UGC	2013-2018	Prof. J. Patel	Rs.8,00,000/-

20. Research facility/centre with

- state recognition : Nil
- national recognition : Nil
- international recognition : Nil

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

22. Publications : Number of papers published in peer reviewed journals (national/international). For details, see the attached Annexure.

Name of the faculty	Year	National Journals	International Journals	Conference Papers	Total
Dr. J. Patel	2010-2011 to 2014-2015	00	15		15
Dr. N. Das	2010-2011 to 2014-2015	03	27		30
Dr. S. Dutta	2010-2011 to 2014-2015	08	14		22
Dr. A. Nath	2010-2011 to 2014-2015	01	01		02

- Monographs : Nil

- Chapters in Books : Nil

- Edited Books: Nil

- Books authored with ISBN with details of publishers : 01

Prof. N. Das: Complex Function Theory, Allied Publishers, Bombay, 2010 (ISBN No. 978-81-8424-580-6).

- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):

Scopus : Prof. J. Patel: 07 (2010-2015)

Prof. N. Das : 13 (2010-2015)

Dr. S. Dutta : 03 (2010-2015)

Dr. A. Nath : 00 (2010-2015)

- Citation Index – range / average:

- SNIP

- SJR

- Impact factor: Range/Average: 0.5 to 1.5

- h-index

23. Details of patents and income generated: Nil

24. Areas of consultancy and income generated.

Income generated : Nil

Name of the Consultant	Name of the Project	Sponsoring Agency	Duration
Dr. S. Dutta	Training and Rehabilitation of Destitute Women	Central Social Welfare Board, New Delhi	Jan. 01, 2012 - Dec. 31, 2015.
Dr. A. Nath	Child Center Community Based Disaster Risk Reduction	Save the Children, Govt. of Odisha	Jan. 01, 2012 - Dec. 31, 2013.
Dr. A. Nath	Odisha Flood Response-2014	Save the Children, Govt. of Odisha	Aug. 01, 2014- Dec. 31, 2014.

Dr. A. Nath	Community Livelihood Resilience and Humanitarian Assistance in Phailin and Flood affected areas of Odisha	Indo Global Social Service Society	Jan. 01, 2014- April 30, 2015.
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25. Faculty selected nationally/internationally to visit other laboratories/ institutions/ Industries in India & abroad : Nil

26. Faculty serving in

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

- J. Patel

- (i) Member of the Editorial Boards in the Journal of Orissa Mathematical Society.

- (ii) Reviewer of Mathematical Reviews, USA.

- (iii) Referee/Reviewer of the Journals :

Journal of Mathematical Analysis & Applications, Applied Mathematics & Computations, Computers & Mathematics with Applications, International Journal of Mathematics & Mathematical Sciences, Journal of Applied Analysis, International Journal of Applied Mathematical Sciences, Demonstratio Mathematica, Indian Journal of Mathematics, Journal of Inequalities in Pure and Applied Mathematics, Journal of Inequalities and Applications, Acta Mathematica Universitatis Comenianae, Indian Journal of Pure & Applied Mathematics, Rocky Mountain Journal of Mathematics Applicable Analysis & Discrete Mathematics.

- (iv) Subject expert for selection of Junior Lecturers in Govt. colleges conducted by Orissa Public Service Commission, Govt. of Odisha.

- (v) Subject expert of the Research Development Council in Mathematics of Pt. Ravishankar University, Raipur (CG).

- (vi) SRC member in Mathematics of F.M. Univ., Balasore, Odisha.

- (vii) Member of Board of Studies in Mathematics of North Orissa Univ., Odisha.

- N. Das

- (i) Referee/Reviewer of the following Journals:
Complex Variables and Elliptic Equations

- S. Dutta

- (i) Member of Board of Studies in Ramadevi Women University, Bhubaneswar.

- (ii) Reviewer /Referee of the following Journals:
Acta Mathematica Scientia, Mathematical Communications, Fast East Journal of Mathematical Sciences.

27. Faculty recharging strategies (UGC, ASC, Refresher/Orientation Programs, Workshops, Training programs and similar programs).

Name of the faculty	Conferences/Refresher Courses/Workshops/Training Programme	Funding Agency	Year/Duration
J. Patel	Annual Conference of Orissa Mathematical Society	OMS	2010-2011 to 2014-2015

	National Conference on Analysis & Applications	UGC	March 24-25, 2012
	Workshops on Analysis	UGC-DRS	March 19-20, 2015
	National Conference on Analysis & Applications	UGC-DRS	March 21-22, 2015
N. Das	Annual Conference of Orissa Mathematical Society	OMS	2010-2011 to 2014-2015
	National Conference on Analysis & Applications	UGC	March 24-25, 2012
	Workshops on Analysis	UGC-DRS	March 19-20, 2015
	National Conference on Analysis & Applications	UGC-DRS	March 21-22, 2015
S. Dutta	Annual Conference of Orissa Mathematical Society	OMS	2010-2011 to 2014-2015
	National Conference on Analysis & Applications	UGC	March 24-25, 2012
	Workshops on Analysis	UGC-DRS	March 19-20, 2015
	National Conference on Analysis & Applications	UGC-DRS	March 21-22, 2015
A.Nath	Annual Conference of Orissa Mathematical Society	OMS	2010-2011 to 2014-2015
	National Conference on Analysis & Applications	UGC	March 24-25, 2012
	Workshops on Analysis	UGC-DRS	March 19-20, 2015
	National Conference on Analysis & Applications	UGC-DRS	March 21-22, 2015
	Refresher Courses (03)	UGC	Jun. 25, 2012-Jul. 15, 2012 Jun.20, 2013-Jul. 10, 2013 Feb. 2014-Mar. 11, 2014
	Workshops (02)	UGC	Oct. 11, 2012-Oct. 20, 2012 August 03-05, 2015.
	Training Programme (02)		Jan. 30, 2012-Feb.07, 2012, May 02, 2102-May 28, 2012

28. Student Projects:

- Percentage of students who have done in-house projects including inter-departmental projects: 100 %
(Students of M.A. /M.Sc. (Maths.), Semester-IV, 2015 have completed their project work as a part of their curriculum under the supervision of the faculty members of the Department).
- Percentage of students doing projects in collaboration with other universities/industry/institute: Nil

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

- Faculty; Dr. A. Nath

Prativa Samman by Ranihat Jagannath Mandira,Cuttack (2015)
Prativa Samman in 35 th HerapanchamiBhajan Samaroha (Saradhabali saskrutik Parisada, Puri) (2015)
Felicitation by Kakatpur Mangala Mandir,(2014)
Jasobanta Prativa Samman(2013)
Felicitation by Sainik School(2012)

- Doctoral/Post Doctoral fellows : Nil
- Students :
DST-INSPIRE fellowship, UGC-BSR fellowship, UGC-CSIR fellowship, INSPIRE Scholarship, UGC-Rank holder Scholarship.

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

Name of the Conferences/Refresher Courses/Workshops Organised	Funding Agency	Year/Duration	Name of the Coordinator/Convenor
Refresher Course in Mathematics & Statistics	UGC	March 03-23, 2011	Prof. N. Das
National Conference on Analysis & Applications	UGC	March 24-25, 2012	Dr. S. Dutta
Workshop on Analysis	UGC-DRS	March 19-20, 2015	Prof. J. Patel
National Conference on Analysis & Applications	UGC-DRS	March 21-22, 2015	Prof. J. Patel

31. Code of Ethics for research followed by the Department:

- The faculty members of the Department maintain ethical standards of their publications by ensuring high-quality and original research work. The Mathematical community trusts in their findings and gives credit for their innovative ideas. They do not adhere to plagiarism, duplicate submission, citation manipulation, data fabrication and falsification, improper author contribution or attribution, and redundant publications.
- The Department follows the Code of Ethics for Research Scholars as per the guidelines of the UGC.

32. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.A. /M.Sc.	2010-2011: 243	41	23	55.26%	44.73%
	2011-2012:206	34	30	48.83%	51.16%
	2012-2013:480	30	34	52.63%	47.36%
	2013-2014:417	30	34	39.02%	60.97%
	2014-2015:544	35	29	48.88%	51.11%

M.Phil.	2010-2011:74	03	07	30.00%	70.00%
	2011-2012:56	03	07	30.00%	70.00%
	2012-2013:58	04	04	50.00%	50.00%
	2013-2014:55	07	02	77.77%	22.22%
	2014-2015:50	03	05	37.50%	62.50%
Ph.D.	2010-2011:37	09	06	100%	100%
	2011-2012:47	11	07	100%	100%
	2012-2013:32	10	05	100%	100%
	2013-2014: 08	05	03	100%	100%
	2014-2015: 37	07	09	71.4%	77.7%

33. Diversity of Students:

Name of the programme (refer to Q. 4)	% of students from the same University	% of students from other Universities within the State	% of students from other universities outside the state	% of students from other countries
M.A. /M.Sc.	2010-2011: 51.5 % 2011-2012: 57.8 % 2012-2013: 81.2 % 2013-2014: 50 % 2014-2015 : 60.93%	2010-2011: 48.4 % 2011-2012: 42.1 % 2012-2013:18.75% 2013-2014: 50 % 2014-2015 : 39.06%	00 00 1.5 % 00 1.5 %	Nil
M. Phil.	2010-2011:90 % 2011-2012:100 % 2012-2013:80 % 2013-2014:70 % 2014-2015:90 %	2010-2011: 10 % 2011-2012:10 % 2012-2013:20 % 2013-2014:10 % 2014-2015:10 %	Nil Nil 10 % 20 % Nil	Nil
Ph.D.	2010-2011:83.3 % 2011-2012:83.3 % 2012-2013:73.3 % 2013-2014:100 % 2014-2015:75 %	2010-2011:16.6 % 2011-2012:16.6 % 2012-2013:26.6 % 2013-2014:Nil 2014-2015:25 %	Nil Nil Nil Nil Nil	Nil

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

Year	No. of students qualified in NET	No. of students qualified in GATE	INSPIRE
2010-2011	05	12	X
2011-2012	03	05	X
2012-2013	01	04	01
2013-2014	01	02	01
2014-2015	00	05	X

35. Student progressions:

Student Progression	Year	Percentage against Enrolled
UG to PG	2010-2011 to 2014-2015	NA
PG to M. Phil.	2010-2011 to 2014-2015	12.5 %
M. Phil. to Ph.D.	2010-2011 to 2014-2015	60 %

Ph.D. to Post Doc	2010-2011 to 2014-2015	02 %
• Employed in Campus Selection	2010-2011 to 2014-2015	Nil
• Other than Campus selection		95 %
Entrepreneurs	2010-2011 to 2014-2015	0.5 %

36. Diversity of Staffs:

Percentage of faculty who are graduates from the same University	25 %
From other Universities within the State	75 %
From other Universities outside the State	Nil
From Universities outside the Country	Nil

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 the Departmental infrastructural facilities with regard to

(a) Library :

The library of the Department is supported by the funds available from NBHM (annually), UGC, UGC-DRS programme, and M.Tech. (Comp. Sci.) Programme. It is also computerized and the total number of books available in the library is 9848.

(b) Internet facilities for staff and students :

Internet facility is available in the Computer Lab. for students, non-teaching staffs and in the chamber of each faculty member.

(c) Total number of class rooms: 04

(d) Class rooms with ICT facility: 02

(e) Students' Laboratories: 01

(f) Research Laboratories: Nil

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

(a) From the host institution/university:

Doctoral students:

(i) Mrs. Mamata Parida: BSR Fellow

(ii) Jitendra Ku. Behera: RGN Fellow

(b) From other institutions/universities:

Doctoral students:

(i) Mr. Nilambar Tripathy: BSR Fellow

Post-Doctoral Fellow:

(ii) Ms. Sushomita Mahanta: NBHM Post-Doctoral Fellow.

40. Number of post graduate students getting financial assistance from the University: Nil

However, almost 30-40% of our students get financial help in the form of scholarship namely, Medhabruti, Prerana, UGC-Rank holder scholarship and Scholarship to pursue Post graduate studies sponsored by Dept. of Higher and Dept. of Science & Technology, Govt. of Odisha.

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

UG and P.G courses under Choice Based Credit System, Revised M.Phil. Course and Ph.D Course work have been introduced and the details were discussed in the Teachers Council Meetings and Board of Studies Meetings.

42. Does the department obtain feedback from
- faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feed back ?
Yes. The important points emerging out of the feedbacks are analyzed and deliberated in the meeting of the Board of Studies and a suitable decision is taken for the improvement of syllabi and teaching-learning-evaluation method.
 - students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Yes. By discussing the important points of the feedbacks in the Teachers' Council meeting of the department.
 - Alumni and employers on the programmes offered and how does the department utilize the feedback?
Yes. By discussing their views / observations in the Teachers' Council meeting of the department.
43. List the distinguished alumni of the Department (maximum 10).
- (i) Late Prof. (Ms.) P. Mohapatra, Dept. of Mathematics, Utkal Univ. (Young Scientist, INSA, 1976/1977).
 - (ii) Prof. S. Padhy, Ex-Director, Institute of Mathematics & Applications, Bhubaneswar.
 - (iii) Prof. Kailash Ch. Mishra, Dept. of Mathematics, North Carolina Univ., USA.
 - (iv) G. Bhuyan, Chief Postmaster General, Bihar Circle, Patna.
 - (v) Prof. Hrusikesh Mohanty, Dept. of Computer Science, Central Univ., Hyderabad.
 - (vi) Prof. M. P. Biswal, Dept. of Mathematics, IIT Kharagpur, Kharagpur.
 - (vii) Prof. Arindam Singh, Dept. of Mathematics, IIT Madras, Chennai.
 - (viii) Prof. Rajen Ku. Sinha, Dept. of Mathematics, IIT Guwahati, Guwahati.
 - (ix) Prof. Ranjan Ku. Mohanty, Dean, South Asian University, New Delhi.
 - (x) Dr. Epsilon, Pics Auditing, Vice President of Engineering, USA.
44. Give details of student enrichment programmes (special lectures/workshops / seminar) involving external experts.
1. Opportunities for higher studies in National Institutes: March 16, 2015
Prof. A.K.B Chand, IIT, Madras
 2. Workshop on Analysis: March 19-20, 2015.
Prof. Huzoor H. Khan, Aligarh Muslim Univ. (Visiting Professor)
Prof. B.S. Komal, Univ. of Jammu. (Visiting Professor)
45. List the teaching methods adopted by the faculty for different programmes.
- The faculty members of the department follow
- Lecture method, quizzes, class room tests (Mid-semester test), Home assignments, and Class room discussion, Practicals, and Projects as teaching methods.

- Acquaint the students with various type of questions, generally asked in the National Level Test like NET/GATE examinations.
 - The students are also informed about the new books on different courses.
46. How does the Department ensure that the programme objectives are constantly met and learning outcomes are monitored?
- The programme objectives are met by
- completing the syllabus in time and paying personal attention to the slow learners through tutorials and discussions.
 - through mid-semester test, class room discussion, viva-voce test, assignments, presentation and project work.
47. Highlight the participation of students and faculty in extension activities.
- The students of the department used to participate in various extension
 - activities of the Universities such as participating in Inter-departmental cricket match, various competitions organized by the university. It is needless to mention here that the students of the department have won the Trophy in the cricket match for the third consecutive year.
 - The faculty members of the department give invited talks in various Schools/Colleges/Institutes.
 - Acting as judges for different competitions in School/Colleges/Institutes.
48. Give details of “beyond syllabus scholarly activities” of the Department.
- Students are encouraged to attend summer camp in NISER, MTS training camp
The faculties of the department always discuss with the students about use of Mathematics in different fields and its job prospects in industries, banking sector, software companies etc. They also discuss with the students regarding questions, generally asked in the national level examinations like NET/GATE etc.
49. State whether the programme /Department is accredited /graded by other agencies? If yes, give details. Yes.
- UGC-DRS , DST-PURSE
50. Briefly highlight the contributions of the Department in generating new Knowledge, basic or applied.
- Research work of faculty members in the areas of Sequences, Operator Theory, Fouries series, Cosmology, and Complex Analysis (Geometric Function Theory) are published in reputed National & International peer reviewed journals.
 - The Department also organizes conferences/workshops/refreshers courses for teachers of other universities and colleges.
 - Faculty members give talks on recent developments in emerging areas
 - in various field in the affiliated colleges.
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department:
- Strengths:
 - Qualified and experienced faculty members.
 - Well placed alumni.
 - Recognized by UGC as DRS Department for the third consecutive term.
 - Computerized Library with 9848 nos. of books.

- Rich syllabus content with components on computer based courses.
- Weakness :
 - Shortage of teaching staffs with varying field of specializations and non-teaching staffs.
 - Intake of students in M.A. /M.Sc. programme is more.
 - Lack of manpower for Computer Lab., and the Departmental Library.
 - Lack of a Conference hall.
 - Lack of Infrastructure facilities, no fund for maintenance of the buildings, and interrupted power supply.
- Opportunities :
 - Possibility of collaboration in teaching & research with institutes within Odisha like NISER, IIT Bhubaneswar, Inst. of Mathematics & Applications, Bhubaneswar.
 - Possibility of collaboration in front line research areas with National and International Universities/Institutions.
 - Possibility of introducing interdisciplinary courses under the School of Mathematics-Statistics-Computer Science and research.
 - Involvement in Socially relevant outreach program for the under privileged section of the society.
- Challenges
 - To improve the quality of research and teaching so as to make the department a Centre for Advanced Study in Mathematics.
 - To motivate the students to learn Mathematics and understand the importance of the subject.
 - Admission of quality students.
 - To make the syllabus for M.A. /M.Sc. programme job oriented and more appealing to the students.
 - To take the leadership in Basic Science training in the State.

52. Future plans of the Department:

- To pursue the teaching and provide an environment, where students can learn and become competent users of Mathematics / Mathematical applications, enabling them to become lifelong learners, grow in their chosen professions, and to function as productive citizens.
- To improve the quality of research so as to make the Department a Centre for Advanced Studies in Mathematics.
- To work closely, not only with colleagues from other disciplines within the University, but also with colleagues from the Schools/Colleges who share the responsibility of ensuring the flow of a mathematically literate and confident generation of new students.
- To invite companies to the department to interact with our students and take initiative for their placement.

ANNEXURE- I

Research Publications of the P.G. Department of Mathematics

2014-2015

- 1.J. Patel, A. Ku. Sahoo and N.E. Cho: Certain subclasses of multivalent uniformly starlike and convex functions involving a linear operator, *Journal of Computational Analysis and Applications*, 19(5) (2015), 812- 829.
- 2.A. Ku. Sahoo and J. Patel: On certain subclasses of multivalent analytic functions with complex order involving a linear operator, *Vietnam J. Math.*, 43(3) (2015), 645-661.
- 3.J. Patel and A. Ku. Sahoo: Inclusion and subordination properties of multivalent analytic functions involving Cho-Kwon operator, *Kyungpook Mathematical Journal* (To appear in 2015).
- 4.J. Patel and N.E. Cho: On certain subclasses of p-valent analytic functions involving Saitoh operator, *Journal of Computational Analysis and Applications* (To appear in 2015).
- 5.N. Das and J.K. Behera: Little Hankel operators and associated integral inequalities, *Communications in Mathematical Analysis*, 18(1) (2015), 1-35.
- 6.N. Das and P.K. Jena: Little Hankel operators on the Bergman space, *Arab Journal of Mathematics*, doi 10.1016(2015) 1-9.
- 7.N. Das and R.P. Lal: Reproducing kernel Hilbert spaces and the associated integral equations, *Azerbaijan Journal of Mathematics*, 5(2) (2015), 21-36.
- 8.N. Das and R.P. Lal: Hyperbolic harmonic functions and the associated integral equations, *Analele Universitatii de Vest, Timisoara Seria Matematica Informatica* (To appear in 2015).
9. N. Das: The space $l_\infty(X)$, *Ann. Acad. Rom. Sci., Ser. Math. Appl.*, (To appear).
- 10.P. Baliarsingh and S. Dutta: On an explicit formula for inverse of triangular matrices, *J. Egyptian Math. Soc.*, 23(2015), 297-302.
- 11.P. Baliarsingh and S. Dutta: An unifying approach to the difference operators and their applications, *Bol. Soc. Paran. Mat.*, 33(1)2015, 1-9.
- 12.P. Baliarsingh and S. Dutta: On certain Toeplitz matrices via difference operator and their applications, *Afrika Matematika* (To appear in 2015).
13. Pradyumna Kumar Sahoo, Anasuya Nath and Sunil Kumar Sahu: Bianchi type –III string cosmological model with bulk viscous fluid in Lyra geometry, *Iranian Journal of Science and Technology, Transaction A, Science*, June 2015.

2013-2014

- 14.J. Patel and A.Ku. Palit: On certain p-valent analytic functions involving a linear operator and majorization problems, *Vietnam J. Math.*, 42(1) (2014), 39- 52.
- 15.J. Patel and A. Ku. Sahoo: On a subclass of analytic functions related to a hyperbola, *Internat. Jour. Math. Math. Sci.*, Vol. 2014 (2014), Article ID 570361:10 pages.
- 16.J. Patel: Properties of certain one parameter family of linear operators, *Pan American J. Math.*, 24(2) (2014), 85- 108.
- 17.J. Patel and A.Ku. Sahoo: On certain subclasses of analytic functions involving Carlson-Shafer operator and related to lemniscate of Bernoulli, *J. Complex Anal.*, Vol. 2014 (2014), Article ID 295703: Pages 7.
- 18.A. Ku. Sahoo and J. Patel: Inclusion and neighborhood properties of certain subclasses of p- valent analytic functions of complex order involving a linear operator, *Bull. Korean Math. Soc.*, 51(6) (2014), 1625-1647.

- 19.A. Ku. Sahoo and J. Patel: Hankel determinant for a class of analytic functions related with lemniscate of Bernoulli, *International Journal of Analysis and Applications*, 6(2) (2014), 170- 177.
- 20.J. Patel and A. Ku. Sahoo: On certain subclasses of analytic functions associated with Carlson-Sha er operator, *Ann. Univ. Mariae Curie-Skodowska Sect.A*, LXVIII(2) (2014), 65-83.
- 21.N. Das: Invariant subspaces and kernel of Toeplitz operators on the Bergman space, *Rocky Mountain Journal of Mathematics*, 44(1) (2014), 35-56.
- 22.N. Das: Toeplitz operators with bounded harmonic symbols, *Ann. Acad. Rom. Sci.,Ser. Math. Appl.*, 6(1), (2014), 108-113.
- 23.N. Das and M. Sahoo: Certain distance estimates for operators on the Bergman space, *Banach J. Math. Anal.*, 8(2) (2014), 193-203.
- 24.N. Das and M. Sahoo: Schatten class Toeplitz operators on the Bergman space over bounded sym-metric domain, *Methods of Functional Analysis and Topology*, 20(3) (2014),193-212.
- 25.N. Das, N. and M. Sahoo: Dominations of Berezin transform, *Vietnam J. Math.*, DOI 10.1007/s 10013-014-0104-0, 1-12.
- 26.N. Das and R.P. Lal: Numerical solutions of a class of integral equations and the associated partial differential equations, *Vietnam J. Math.*, DOI 10.1007/s 10013-015-0153-z, 1-21.
- 27.N. Das: On a class of weighted composition operators on Fock space, *Bul. Acad. Stiinte Repub. Mold. Mat.*, 2(75) (2014), 3-8.
- 28.S. Dutta and P. Baliarsingh: A note on paranormed difference sequence spaces of fractional order and their matrix transformations, *J. Egyptian Mathematical Soc.*, 22 (2014), 249-253.
- 29.P. Baliarsingh and S. Dutta: On the spectral properties of the weighted mean difference operator $G(u; v)$ over the sequence space ℓ_1 , *Internat. J. Analysis*, Vol.2014, Article ID 786437, 7 pages.
- 30.P. Baliarsingh and Salila Dutta: On certain Paranormed Difference sequence spaces derived from generalized weighted mean, *J. Indian Math. Soc.* (To appear).
- 31.S. Dutta and P. Baliarsingh: On some Toeplitz matrices and their inversions, *J. Egyptian Math. Soc.*, 22(2014), 420-423.
- 32.P. Baliarsingh and S. Dutta: On a spectral classification of the operator T_u over the Sequence space c_0 , *Proc. Nat.Aca.Sci.,India, Section.A, Phys. Sci.*, 84(4) (2014) Sec A, 10/24, 555-561.
- 33.P. Baliarsingh and S. Dutta: On the classes of fractional order difference sequence spaces and their matrix transformations, *Appl. Math. Computation*, 250(1)(2014)(11), 665-674.
- 34.P. Baliarsingh and S. Dutta: A class of new difference sequence spaces and their matrix transforma-tions, *Acta Univer. Apul.*, 37(2014) 125-140.
- 35.P. Baliarsingh and S. Dutta: On the Spectrum of Difference Operator Dab Over the Sequence Spaces ℓ^p and bvp ; ($1 < p < \infty$), *Mathematical Sciences Letters*, 3(2)(2014), 1-6.

2012-2013

- 36.J. Patel: On starlikeness and convexity of certain integral operators, *Southeast Asian Bulletin of Mathematics*, 37(1) (2013), 123- 130.
- 37.J. Patel and A. Ku. Palit: On certain subclasses of analytic functions related to complex order, *Southeast Asian Bulletin of Mathematics*, 37(3) (2013), 375- 390.

- 38.J. Patel, N.E. Cho and A. Ku. Palit: On certain subclasses of multivalent functions defined by a multiplier transformations, J. Ineq. Appl., 2013:441.
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Post Graduate Department of PHYSICS



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department: P.G. DEPARTMENT OF PHYSICS
2. Year of establishment: 1967
3. Is the Department part of a school/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters, Integrated Ph.D., D.Sc., D.Litt. etc.): PG, M.Phil., Ph.D.
5. Interdisciplinary programmes and departments involved : Nano-Biotechnology Research collaboration with Dept. of Biotechnology, Botany, Zoology, Chemistry.
6. Courses in collaboration with other universities, industries, foreign institutions, etc. Joint Ph.D Course work with Central Institute of Plastic and Engineering Technology (CIPET) and Institute of Mineral and Materials Technology (IMMT), Institute of Materials Science (IMS).
7. Details of programmes discontinued, if any, with reasons: NA
8. Examination system :
 - M.Sc.- Semester and Choice Based Credit System
 - M. Phil- Semester
 - Ph.D. Course work- Semester and one elective paper
9. Participation of the department in the courses offered by other departments:
 - (a) The syllabus under CBCS has been developed and following Courses are offered for other Department (Mathematics, Chemistry, Bio-technology) students :
 - Computational Methods
 - Basic Electronics
 - Basic Quantum Mechanics
 - Basic Solid State Physics
 - (b) The students of Physics department have been given the choice to opt for courses offered by other departments.
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	3	1 - Direct	
Associate Professors/Reader	3	2 - Direct	
Asst. Professors/Lecturer	4	3	
Others DST-INSPIRE Faculty		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 Research/Teaching	No. of Ph.D./ M.Phil. students Guided for the last 4 years

Swapana Mahapatra	Ph. D	Professor & Head	High Energy Physics, Gravitation and Cosmology	25 years	M.Phil-6 Ph.D-3 (Cont.)
Seshansu Sekhar Pal	Ph.D.	Reader	High Energy Physics	12 years	
Prafulla Kumar Panda	Ph.D.	Reader	Nuclear and High Energy Physics	20 years	
Pramoda K. Samal	Ph.D.	Lecturer	Cosmology	5 years	M.Phil-5
Jagadish Kumar	Ph.D.	Lecturer	Nonlinear Dynamics	5 years	
Bhagban Kissan	M.Sc, (Ph.D. Thesis to be submitted)	Lecturer	Experimental Condensed Matter Physics		
Ramakanta Naik	Ph.D.	DST-INSPIRE Faculty	Experimental Condensed Matter Physics	5 years	M.Phil-7 Ph.D-2 (Cont.)
P.Khare	Ph.D.	Professor (Retired on 31.01.2010)	Astrophysics	32 years	
L.Maharana	Ph.D.	Professor (Retired on 30.04.2010)	High Energy Physics	25 years	
K.Maharana	Ph.D.	Professor (Retired on 31.01.2011)	High Energy Physics, Gravitation and Cosmology	31 years	M.Phil-3
D. K.Basa	Ph.D.	Professor (Retired on 30.11.2014)	Experimental Condensed Matter Physics	32 years	M.Phil-1
N.C.Mishra	Ph.D.	Professor (Retired on 30.06.2015)	Experimental Condensed Matter Physics	30 years	M.Phil-10 Ph.D-3(5 Cont)

12. List of senior Visiting Fellows, Adjunct faculty, Emeritus Professors, Visiting Professors:

Prof. Karmadeva Maharana	Ph.D.	Visiting Professor (Retd. Prof., Utkal University)	High Energy Physics, Gravitation & Cosmology
Prof. Durga Prasad Mahapatra	Ph.D.	Visiting Professor (Retd. Prof., Institute of Physics)	Experimental Condensed Matter Physics and High Energy Physics
Prof. Naresh Ch. Mishra	Ph.D.	Visiting Professor (Retd. Prof., Utkal University)	Experimental Condensed Matter Physics
Prof. Prasanta Jena	Ph.D	Visiting Professor (Retd. Faculty, Govt. of Odisha)	High Energy Physics
Prof. Niranjana Barik	Ph.D	Visiting Professor (Retd.	High Energy Physics

		Prof., Utkal University	
Prof. Lambodar P.Singh	Ph.D	Visiting Professor (Retd. Prof., Utkal University	High Energy Physics, Gravitation &Cosmology

13. Percentage of classes taken by temporary faculty/ Visiting Professors –

Programme-wise information :

25% classes (M.Sc.) by Visiting Professor (5 years average)

14. Programme-wise Student Teacher Ratio :

M.Sc. in Physics- 12:1

M.Phil in Physics- 2:1

Ph.D. course work-2:1

15. Number of academic support staff (technical) and administrative staff -

Post	Sanctioned	Filled and actual
Administrative Staff	3	2
Demonstrator	4	
Laboratory Attendant	7	3
Electrician	1	
Carpenter	1	
Instrument Keeper	1	
Mechanic	1	1
Sweeper	1	1
Peon	1	1
Watchman	1	

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

Thrust Area	Funding Agency
High Energy Physics, Gravitation and Cosmology, Materials Science	UGC DRS-I, II
Computational Physics Experimental Condensed Matter Physics,	DST FIST-I, II
Nuclear-Astro Physics	BRNS
Computational Biology	NIH, USA

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

Name of the Project	Funding Agency National	Period	Coordinator	Grant Received
India Based Neutrino Observatory (INO) Collaboration	DST-DAE	2014-2019	Prof. S. Mahapatra	11 lakh*
Photo induced optical property study in chalcogenide thin films (DST-INSPIRE)	DST	2012-2017	Dr Ramakanta Naik	17.35 lakh**
Study of the Hadron structure and Compact star	DAE-BRNS	2014-2017	Dr. P K. Panda	20 lakh***

(BRNS)				
Synergy of Electronic and Nuclear Energy Losses in SHI Induced Sputtering from Nanoparticle Thin Films	IUAC-New Delhi	2009-2012	Prof. N.C.Mishra	4 lakhs
Modification and characterization of nano-structured TiO ₂ thin films by Ion beams	UGC-DAE-CSIR	2009-2012	Prof. N.C.Mishra	4.4 lakhs

*Sanctioned 35 lakh

**Sanctioned 35 lakh

***Sanctioned 23.15 lakh

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration -

Sl. No.	Name of the Project	Collaborative Institutes Name	Associated Grant Received
1	INO (Neutrino Physics)	Multi Institutional National Collaboration (TIFR, BARC, IMSc, HRI,IOP,SINP, IIT Madras, IIT Bombay, Delhi Univ., BHU, Lucknow Univ., Calicut Univ.)	11 lakh (DST)
2	Study of Hadron structure and Compact Star	Ravenshaw University, Odisha	14 lakh (BRNS)
3	Study of Nuclear structure	Sambalpur University, Odisha	5 lakhs (UGC-DAE-Consortium)
4	Acoustic Oscillations in Heavy ion collision using CMBR.	Institute of Physics (IOP), Bhubaneswar	
5	Foreground study in Cosmic microwave background Radiation	Indian Institute of Technology, Kanpur	
6	Supersymmetric Quantum Mechanics	North Orissa University, Odisha	
7	Photo induced Optical Study	Indian Institute of Science, Bangalore	
8	Dislocation Dynamics	Tezpur University, Assam; IISc Bangalore	BRNS
9	Swift Heavy Ion induced Modifications of materials	Inter University Accelerator Centre (IUAC), New Delhi	
10	Many body theory in Nuclear Physics	Physical Research Laboratory, Ahmadabad	

11	Non Linear Optical Study	IISER, Bhopal	
12	Optical Properties of Chalcogenide films	Bhabha Atomic Research Centre Mumbai	
13	Structural Study of bulk and films	IIT, Bhubaneswar	
14	Thin Film Characterization	NISER, Bhubaneswar	
15	Evolution of defect induced magnetism in nonmagnetic materials	BHU ,Varanasi	
16	Electronic and nuclear energy loss induced phase formation of materials	Jawaharlal Nehru University, New Delhi	
17	Superconducting order parameter fluctuation study in high Tc superconductor	NIT, Rourkela	
18	Power spectrum estimation in CMB	IUCAA, Pune	

b) International collaboration

Sl. No	Name of the Project	Collaborative Institutes Name	Associated Grant Received
1	Black holes in N=2 Supergravity and deformation of special geometry	NIKHEF, University of Utrecht, The Netherlands	Humboldt Foundation grant, Max Planck Fellowship
2	BPS Black holes, entropy function and topological string	IST, Universidade Tecnica de Lisboa, Lisbon, Portugal, NIKHEF, Amsterdam	Max Planck Fellowship
3	Infection and Immunity	University of New South Wales, Australia	
4	Infection and Immunity	University of Minnesota, USA	
5	Study of Compact Stars in Nuclear Physics	CFC, Departamento de Fisica, Universidade de Coimbra, Coimbra, Portugal	
6	Study of equation of state of nuclear matter in the presence of magnetic field	Department of Physics, B.307, Danish Technical University, Denmark	
7	Quark and Gluon condensates and Quark Stars	Departamento de Física, CFM, Universidade Federal de Santa Catarina, Brazil, Instituto Tecnológico de Aeronáutica, Brazil	
8	Study of Cosmic Microwave Background Multipole	University of Kansas, USA	

	alignment.		
9	Estimation of CMB power spectrum	JPL, Caltech, USA; CNRS, France, Institute de Astro physique, France	

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

Name of the Project	Funding Agency National	Period	Coordinator	Grant Received
DST-FIST-II	DST	2009-2014	Prof. N.C.Mishra	108 lakh
DRS-I	UGC	2007-2012	Prof. L.P.Singh Prof. L.Moharana Prof. K.Maharana Prof.S.Mahapatra	35 lakh
UGC XI Plan	UGC	2007-2012	Head of the Dept.	20 lakh
DRS-II	UGC	2013-2018	Prof. S. Mahapatra	4.3 lakh*
DST-PURSE	DST	2011-2015	Head of the Dept	69 lakh
India Based Neutrino Observatory (INO) Collaboration	DST-DAE	2014-2019	Prof. S. Mahapatra	11 lakh**

*Sanctioned 74 lakhs

**Sanctined-35 lakhs

20. Research facility/ centre with

- State recognition: Centre of Excellence by Govt. of Odisha
- National recognition: UGC-SAP, DST-FIST, DST-PURSE

Research in the areas of

- High Energy Physics,
- Gravitaion and Cosmology, Astrophysics
- Condensed Matter Physics Research and lab facilities with X-Ray Diffractometer, UV-Visible spectrophotometer
- International recognition: Theoretical and Experimental High Energy Physics, Nuclear Astrophysics , String Theory

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

22. Publications in

- Research Journal: 165 (International, National)
Average Impact factor: 2- 3; Citation Index: 415
 - Peer Reviewed Journal-144
 - Conference Proceedings-21
 - Chapters in Book:
- Books
 - Authored:01

- Edited:

See Annexure-I for detail publication list (2010-15)

23. Details of patents and income generated :
24. Areas of consultancy and income generated :
25. Faculty selected nationally/ internationally to visit other laboratories/institutions/ industries in India and abroad :

a) Visit to other National Institutions by Faculty members -

Name of the Faculty	Visit to National Institutions
S. Mahapatra	Harish Chandra Research Institute, Allahabad; International Centre for Theoretical Sciences-TIFR, Bangalore, Institute of Mathematical Sciences, Chennai; IIT, Madras; Delhi University; BHU
N.C.Mishra	IUAC, New Delhi, BHU; Tezpur University, Assam
P.K.Panda	Indian Association for Cultivation of Sciences, Kolkatta
S.S.Pal	SINP, Kolkatta
P.K.Samal	IIT Kanpur; IUCAA Pune
Jagadish Kumar	IGCAR, Kalpakkam
Bhagban Kissan	IIT Guwahati; BARC, Mumbai
Ramakanta Naik	IISc, Bangalore; IIT Bombay; IUAC, New Delhi
P.Khare	IUCAA, Pune
K.Maharana	Harish Chandra Research Institute, Allahabad

b) Visit to other International Institutions by Faculty members -

Name of the Faculty	Visit to International Institutions
S. Mahapatra	CERN, Geneva; University of Utrecht, The Netherlands; NIKHEF, Amsterdam, The Netherlands; Max Planck Institute, Munich, Germany; Max Planck Institute-Albert Einstein Institute for Gravitational Physics, Berlin, Germany;
P.K.Panda	CFC, Departamento de Fisica, Universidade de Coimbra, Coimbra, Portugal; Departamento de Física, CFM, Universidade Federal de Santa Catarina, Brazil; University of Pisa, Italy
Jagadish Kumar	University of New South Wales, Australia
D.K.Basa	University of Naples, Italy
K.Maharana	CERN, Geneva; NIKHEF, Amsterdam, The Netherlands; Max Planck Institute, Munich, Germany; Max Planck Institute-Albert Einstein Institute for Gravitational Physics, Berlin, Germany;

26. Faculty serving in

a) National committees:

- N.C. Mishra-Chairman, Accelerator User Committee, IUAC, New Delhi (2013)

b) International committees :

- S. Mahapatra- International Organizing Committee member of "8th Asian Winter School in Particle Physics and Cosmology"
- P.K. Panda- International Organizing Committee member of "Nano science and Technology Conference"

- P.K.Panda- International Organizing Committee member of "High Performance Computing"

c) Editorial Boards :

d) Any other (please specify):

Name of the Faculty		Board of Studies/ SRC/Academic Council Member in Other Univ.
Ramakanta Naik	Reviewer in <ul style="list-style-type: none"> • Journal of Physics D: Condensed Matter Physics • Applied Physics A: Materials Science and Processing • World Journal of Physics • Journal of Alloys and Compounds • Indian Journal of Physics • Indian Journal of Pure and Applied Physics • Material Research Express • International Journal of Nano and Biomaterials • Acta Physica Polonica • AIP conference Proceedings 	
S. Mahapatra	<ul style="list-style-type: none"> • Reviewer in Journal of High Energy Physics • Expert member BRNS Project • Adjunct faculty at Harish Chandra Research Institute, Allahabad • Associate Faculty ICTS-TIFR, Bangalore • Resource person in programmes of Academic Staff College, Faculty Recharge Programme of Utkal University • Resource person in UGC National Seminar in BJB College, PN College, Kendrapara College, Anandapur College, Stewart Science College, Odisha • Resource person in DST-INSPIRE Science Camp in Ravenshaw University, IOP, NISER, Utkal University, KIIT. 	Ravenshaw University
P.K.Panda	<ul style="list-style-type: none"> • Reviewer in Indian Journal of Physics 	
N.C.Mishra	<ul style="list-style-type: none"> • Reviewer in Indian Journal of Physics, IOP publication, Elsevier publication 	Ravenshaw University, KIIT University, North Odisha University

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

Name of the	Designation	Programme
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Faculty		
P.K.Panda	Reader	Faculty Recharge Programme, Utkal University, "100 years of General Theory of Relativity"
S.S.Pal	Reader	Faculty Recharge Programme, Utkal University "100 years of General Theory of Relativity"
P.K.Samal	Lecturer	Orientation Programme Utkal University National Seminar on "100 years of General Theory of Relativity", "Recent Trends in Physics", "Current Trends in Physics", "Aspects of Quantum Cosmology and Early Universe", "Understanding the fundamental interaction", "UGC-DAE CSR awareness workshop on materials science"
J.Kumar	Lecturer	Faculty Recharge Programme, Utkal University "100 years of General Theory of Relativity"
B.Kissan	Lecturer	Faculty Recharge Programme, Utkal University "100 years of General Theory of Relativity"
R. Naik	DST-INSPIRE Faculty	National Seminar on "100 years of General Theory of Relativity", "Recent Trends in Physics", "Current Trends in Physics", "Understanding the fundamental interaction", "UGC-DAE CSR awareness workshop on materials science"

- Refresher Course conducted: 1,
- Conference/Workshop conducted: 7

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects: 75%
 - Percentage of students doing projects in collaboration with other universities / industry / institute : 25%
- (IOP,NISER,CIPET,IGCAR, IISER, Mohali, VECC Kolkatta)

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

Sl. No.	Name of the Faculty	Awards/Recognitions received
1	S. Mahapatra	<ul style="list-style-type: none"> • Max Planck Institute for Gravitational Physics fellowship, Berlin, Germany (2010 and 2014) • Alexander von Humboldt Foundation re-invitation fellowship, Max Planck Institute (Munich), Germany (2013) • Visiting Scientist, CERN, Geneva (2012) • Visiting Scientist, NIKHEF, Amsterdam, The Netherlands (2013) • Visiting Scientist, University of Utrecht, The Netherlands (2010) • Associate faculty, International Centre for Theoretical Sciences (ICTS-TIFR), Bangalore (2014-2017) • Adjunct Faculty, Harish Chandra Institute, Allahabad (2011-2014)

		<ul style="list-style-type: none"> • Associate, ICTP, Trieste, Italy • International Organising Committee member, 8th Asian Winter School in High Energy Physics and Cosmology (2014) • Chairperson, "Strings 2015" International Conference, ICTS-TIFR • Chairperson, Indian Strings Meeting 2010, 2012, 2014 (International Conference) • Chairperson National Strings Meeting 2011
2	Prof. N.C. Mishra	Chairman, Accelerator Users Committee of the IUAC, New Delhi, 2013
3	K. Maharana	<ul style="list-style-type: none"> • Max Planck Institute (Albert Einstein Institute) research fellowship, Berlin, Germany (2014) • Visiting Scientist, Max Planck Institute-Werner Heisenberg Institute for Theoretical Physics Munich, Germany (2013); • Visiting Scientist, NIKHEF, Amsterdam, The Netherlands (2013) • Visiting Scientist, CERN, Geneva (2012)
4	Dr. P. K. Samal	<ul style="list-style-type: none"> • Associate at the Inter-University Centre for Astronomy and Astrophysics, Pune, • Young Scientist Award, Odisha Physical Society, 2013
5	R. Naik	DST-INSPIRE Faculty Award

b) by Doctoral /post doctoral fellows:

c) by Students:

- DST-INSPIRE Fellowship
- DST-INSPIRE Scholarship,
- UGC Rank holder scholarship ,
- UGC-CSIR JRF.
- UGC-BSR Fellowship

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

Sl. No.	Seminars/Conferences/Workshops	National/International	Duration	Funding source	Outstanding participants /Invited Speakers
1	"100 years of General Theory of Relativity"	National	10-11 March 2015	UGC-DRS-II	Prof. Rajaram Nityananda (former Director, NCRA), Prof. Sunil Mukhi (IISER, Pune), Prof. Partha Majumdar (SINP), Prof. N. Dadhich (former Director, IUCAA)
2	"Current Trends in Physics"	National	3rd Jan.2015	DST-PURSE	Prof. Rudrajyoti Palit (TIFR) Prof. Sanjay Swain, (NISER) (spokesperson CMS B Physics)

3	8 th Asian winter School in Particle Physics & Cosmology	International	8-18, Jan. 2014	ICTS-TIFR	Prof. John Ellis(former Head, Theory division, CERN) Prof. Asoke Sen (HRI) (Dirac Medalist, Fundamental Physics prize) Prof. Sandip Trivedi (Director, TIFR)
4	"Recent Trends in Physics & a special session on "Women in Science"	National	8 th March, 2014	Odisha Bigyan Academy	Prof. Rohini Godbole (IISc) (Chairperson, Women in Science) Prof. Bedangadas Mohanty (Chairperson, SPS,NISER), Prof. Subhankar Bedanta (NISER)
5	UGC-DAE CSR awareness workshop on materials science	National	23-24 March, 2012	UGC-DAE CSR	Prof. Ajay Gupta (IUC, Indore) Prof. N.P.Lalla (IUC Indore) Prof. Alok Banarjee (IUC Indore)
6	"Understanding the fundamental interaction"	National	27 th March, 2012	DST-PURSE	Prof. Basanta Nandi (IIT Bombay) (Hottest Researcher of the World 2007) Prof. Prafulla Behera (IIT Madras), Prof. Bedangadas Mohanty (Chairperson, SPS,NISER), Prof. Sanjay Swain (NISER) (spokesperson CMS B Physics) Prof. Gagan Mohanty (TIFR)
7	"Aspects of Quantum Cosmology and Early Universe"	National	12-13 March, 2010	UGC-DRS-I	Prof. J. Maharana (IOP), Prof. Tapan Nayak (VECC), Prof. Sudhakar Panda (HRI), Prof. Anirban Basu (HRI)
8	Annual Alumni meeting: "Noble Prize in Physics, 2014",	National	9 th Nov. 2014	Alumni Members, Physics Dept.	Alumni Members
9	Annual Alumni meeting: "Noble Prize in Physics, 2013	National	10 th Nov. 2013	Alumni Members, Physics Dept.	Alumni Members
10	Annual Alumni meeting: "New form of matter: deconfined state of quark and gluon", 2015	National	8 th Nov. 2015	Alumni Members, Physics Dept.	Alumni Members

11	Skill development Workshop on “Computational Methods and applications in Physics”	National	5-6 Nov. 2015	UGC XIIth plan	Prof. B.K.Nandi (IIT Bombay); Dr.B.K.Sahoo(PRL, Ahmedabad)
12	Skill development Workshop on “Instrumentation and repairing of basic instruments”	National	17-18 Nov. 2015	UGC XIIth plan	Prof. D.P.Mahapatra (former Professor, IOP)
13	“International Year of Light 2015”	National	15 Nov. 2015	UGC-DRS-II	Prof.A.K.Ghatak (former Professor, IIT Delhi); Prof.B.Iyer (Chair, IndIGO Consortium, ICTS-TIFR)

31. Code of ethics for research followed by the departments : As per UGC guideline

32. Student profile programme-wise:

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. 2010-11	485	22	8	99%	91%
M.Sc. 2011-12	577	19	11	96%	96%
M.Sc. 2012-13	765	21	9	97%	97%
M.Sc. 2013-14	883	20	10	94%	94%
M.Sc. 2014-15	965	22	8		

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Phil. 2010-11	63	8	2	86%	86%
M.Phil. 2011-12	60	6	2	83%	83%
M.Phil. 2012-13	50	5	2	86%	86%
M.Phil. 2013-14	25	3	4	100%	100%
	44	3	5		
M.Phil. 2014-15	45	3	4	100%	100%

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
Ph.D. 2011-12	40	4	3	100%	100%
Ph.D. 2012-13	35	4	4	100%	100%
Ph.D. 2013-14	26	6	5		
Ph.D. 2014-15	26	5	3		

33. Diversity of students

Name of the Programme (refer to question No.4)	% of students from the same university	% of students from other University Within the State	% of students from universities outside the state	% of students from other countries
M.Sc. Physics	30%	68%	2%	0%
M.Phil. Phys.	20%	80%	0	0
Ph.D Course work	50%	50%	0	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations?

Give details category-wise

Year	NET	GATE	JEST	TIFR	BARC	IGCAR Kalpakkam
2010-11	4	11	6			
2011-12	4	10	8			
2012-13	2	11	3			
2013-14	2	10	6			1
2014-2015	3	9	7	1	3	3
2015	11					

- On an average, more than 60% of the students get selected in National level entrance examinations for doing Ph.D.
- Students have joined in Ph.D programme at IIT Kanpur, IIT Indore, IIT Bombay, IIT Kharagpur, IIT Madras, IIT Hyderabad, IIT Guwahati, NISER, IISERs, Institute of Physics, IGCAR Kalpakkam, BARC, ISRO, TIFR, UGC-DAE Consortium Indore, ISM Dhanbad, University of Hyderabad etc.

(Details are given in Annexure-II)

35. Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M.Phil.	10%
PG to Ph.D.	90%
Ph.D. to Post- Doctoral	70%
Employed	
• Campus selection	NA
• Other than campus recruitment	90-95 %
Entrepreneurs	

36. Diversity of staff

Percentage of faculty who are graduates (P.G/Ph.D)	
of the same university	50%
from other universities within the State	40%
from universities from other State	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 : 1 (Ph.D)

38. Present details of departmental infrastructural facilities with regard to
- a) Library:
 1. Text Books, Reference Books: About 4000
Study room with capacity : 40, open 24 hours x 7 days manned by students,
Internet facility.
 2. Total no. of journals (Indian/Foreign) subscribed annually: 5
& a number of e- journals through INFLIBNET.
 - b) Internet facilities for staff and students :
Total no of computers connected with Internet- 36
 - c) Total number of class rooms : 5
 - d) Class rooms with ICT facility : 2
 - e) Students' laboratories : 6
 - f) Research laboratories : 3
39. List of doctoral, post-doctoral students and Research Associates (2010-15)
- Doctoral Students :
- (a) From the University:15
 1. Rajib Biswal
 2. Pravanjan Mallick
 3. Bibekananda Nayak
 4. Priyanka Priyadarshini Pruseth
 5. Mohammed Jahangir
 6. Subhashree Mohanty
 7. Rozalin Panda
 8. Mukta Behera
 9. Haripriya Rath
 10. Priyadarshini Dash
 11. Bipin Tripathy
 12. Bichitrananda Dash
 13. Radhanath Mishra
 14. Dolagobinda Nanda
 15. Madhusmita Panda
 - (b) From other Institutions/ Universities: about 20
40. Number of post graduate students getting financial assistance from the university/Govt. Agencies/ Private Organizations:
- Scholarships availed by the students:
1. DST-INSPIRE:8
 2. UGC Rank Holder:10
 3. Higher Education, Govt of Odisha:77
 4. DST, Govt of Odisha:75

5. Medhabruty:70
 6. Prerana: 53
 7. Posco:1
 8. Harihar Mishra Memorial Scholarship:10
 9. Pranakrushna Parija Memorial Scholarship:8
 10. Khira Gobinda Scholarship:3
 11. Banishree Scholarship(for Physically challenged students) : 2
41. Was any need assessment exercise undertaken before the development of new Programme(s) ? If so, highlight the methodology. YES
- UG and P.G courses under Choice Based Credit System, Revised M.Phil. Course and Ph.D Course work have been introduced and the details were discussed in the Teachers Council Meetings and Board of Studies Meetings.
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.
 - The key points have been discussed and suggestions have been implemented.
 - The matter is discussed in the Teachers' Council of the Department and steps are taken.
 - b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? YES.
Key points are discussed in the Teachers' Council and suggestions of the students are taken into account.
 - c. Alumni and employers on the programmes offered and how does the department utilize the feedback? YES.
The suggestions are discussed among faculty members and in Annual general body meeting of the Vani Vihar Physics Alumni Associations and steps are taken for implementation.
43. List the distinguished alumni of the department (maximum 10)
1. Prof. Asoka Das, Vice Chancellor, Utkal University
(Former Head, Laser and Plasma Division & Distinguished Scientist, BARC)
 2. Prof. Bedangadas Mohanty, (*BHATNAGAR AWARDEE, Swarna Jayanti Fellowship Awardee*),
Chairperson, School of Physical Sciences, NISER
 3. Prof. R. Srikanand (*BHATNAGAR AWARDEE*), Senior Professor, IUCAA, Pune
 4. Prof. U.C.Mohanty (*BHATNAGAR AWARDEE*),Earth, Ocean and Climate Sciences, IIT Bhubaneswar
 5. Asish Satpathy, Faculty, School of Business & Admin, University of California, Riverside, CA, USA / Founder & CEO, Zympi, Inc., California, USA
 6. Prof. Durga Prasad Mahapatra, Scientist, JPL, NASA

7. Prof. Rudrajyoti Palit, Department of Nuclear and Atomic Physics, Tata Institute of Fundamental Research, Mumbai
8. Prof. Basanta Kumar Nandi (World's Hottest Researcher 2007), IIT, Bombay.
9. Mr Gopinath Mohanty, IAS
10. Ms Tinku Biswal, IAS

(For more information, please see the Annexure-III)

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

- There is Seminar programme in the Dept on Saturdays, where students and faculty members give talks on topics of mutual interest.
- Students actively participate in the Conferences, Seminars and Workshops Organized in the Department (List given below).
- Eminent Scientists are invited to the Department to deliver Colloquium talks Special lectures (list given below).

List of Conferences, Seminars , workshops organized (2010-2015):

1. National Seminar on "Recent Trends in Physics & a special session on "Women in Science" (2014)
2. National Seminar on "Current Trends in Physics" (2015)
3. National Seminar on "Aspects of Quantum Cosmology and Early Universe" (2010)
4. UGC-DAE CSR awareness workshop on materials science (2012)
5. National Seminar on "Understanding the fundamental interaction" (2012)
6. National Seminar on "100 years of General Theory of Relativity" (2015)
7. Skill based workshop on "Computational Methods and Applications" (2015)
8. Skill based Workshop on "Instrumentation and repairing of basic Instruments" (2015)
9. National Symposium on "International Year of Light 2015" (2015)

List of Colloquia and Special Lectures delivered by Eminent Scientists (2010-2015):

1. Prof. Lalu Mansingh (University of Western Ontario, Canada), (2014)
2. Prof. D.P.Roy (INSA Senior Scientist, HBCSE-TIFR), (2014, 2015)
3. Prof Ashok Das (University of Rochester), (2010, 2011, 2013, 2014, 2015)
4. Prof. Rohini Godbole (CHEP, IISC-Bangalore), (2014)
5. Prof. Ashoke Sen (HRI, Allahabad; Dirac Medalist-ICTP, Fund. Physics Prize winner) (2012)
6. Prof. Bedangadas Mohanty (NISER), (2013, 2014, 2015)
7. Prof. Rajaram Nityananda (Former Director, NCRA), (2011, 2015)
8. Prof. Sunil Mukhi (IISER, Pune), (2015)
9. Prof. Basanta Kumar Nandi (IIT Bombay; hottest researcher of the world 2007), (2012, 2015)
10. Dr. Sanjib Agarwalla (IOP, BBSR), (2014)
11. Dr. S. Bedanta (NISER), (2014)
12. Dr. G.B. Mohanty (TIFR), (2012)

13. Prof. S.D. Mahanti (University of Michigan), (2015)
 14. Prof. John Ellis (CERN) (Jointly organized by NISER and Utkal Univ.), (2014)
 15. Prof. Asoka Das (Vice-Chancellor, Utkal University), (2014)
 16. Prof. Naresh Dadhich (Former Director, IUCAA), (2015)
 17. Prof. Bala Iyer (Former Professor, Raman Research Institute, Chair IndIGO Consortium, ICTS-TIFR), (2015)
 18. Prof. Ajoy Kumar Ghatak (Former Professor, IIT Delhi), (2015)
45. List the teaching methods adopted by the faculty for different programmes.
 - a) Black Board Talks with details
 - b) Multimedia presentation
 - c) Demonstration with Laboratory Classes
 - d) Project work supervised by faculty members
 46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
 - a) Continuous evaluation in the class.
 - b) Quiz
 - c) Mid Semester Examination
 - d) Interaction Session in the Laboratories.
 - e) Seminar Presentation
 - f) The learning outcomes are monitored through
 - i) placement of the students in various National Institutions,
 - ii) qualifying in different national level examinations,
 - iii) joining in the Ph.D programme of National Institutions,
 - iv) going to world class laboratories/Institutions for research.
 47. Highlight the participation of students and faculty in tension activities.
 - a) Relief work during calamities.
 - b) Cultural activities
 - c) Study tour
 - d) Cleanliness drive (Swachha Bharat Abhijan)
 - e) Participation of students in Cricket match, Badminton.
 - f) Movie Club
 - g) Visit of School children to Laboratories.
 - h) Celebration of National Science Day through Debate competition and special lectures.
 - i) Alumni get together and popular talks
 48. Give details “beyond syllabus scholarly activities” of the department
 - (a) Students are encouraged to attend Summer programme at various National Institutions like Institute of Physics, NISER, IISER, IMMT, VECC, CIPET, HRI, IGCAR, PRL, IPR etc.
 - (b) Faculty members and students attend colloquium talks/seminars at Institute of Physics, NISER.

- (c) Students also interact with the scientists at IOP, NISER, IIT and they use the library and computer Centre of IOP.
 - (d) Students working in experimental research work use the facilities and instruments at IOP and NISER.
 - (e) Participation in Skill based workshops
49. State whether the programme/department is accredited/graded by other agencies?
If yes, give details. YES (UGC-SAP , DST-FIST, DST-PURSE, Govt of India)
50. Briefly highlights the contributions of the department in generating new knowledge, basic or applied.
- Research work of faculty members in the areas of High Energy Physics, Gravitation, Cosmology, String Theory and Material Science are published in reputed International and National peer reviewed journals (with more than 150 research publications during last 5 years).
 - Faculty members give talks on recent developments in emerging areas in various field in the affiliated colleges.
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.
- Strengths:
- (a) Our students get selected in national institutions like IOP, NISER, IISERs, IITs, IISc, IMSc, HRI, TIFR, IIA,PRL, IGCAR, ISRO, BARC, RRCAT, UGC-DAE-Consortium for Ph.D. programme. Some students also get selected to go abroad for doing Ph.D.
 - (b) Our Post Graduation course has a high demand and we receive around 1000 applications for 30 seats.
 - (c) Students are financially supported by the Alumni members for their application fee for entrance examinations, attending interviews for higher studies, admission etc.
 - (d) Seminar Library is open for 24 hours and it is manned by the students and it is very much used by the students.
 - (e) Computational and Internet facilities are provided to all the faculty members and students.
 - (f) Faculty members are sincerely engaged in research activities and they regularly participate in national and international conferences by presenting research work and chairing sessions.
Faculty members get invitation to visit world class Institutions as visiting scientists.
- Weakness :
- (a) Practically no funding for infrastructure development, maintenance of the buildings.
 - (b) meagre funding for laboratory up gradation.
 - (c) No centralized sophisticated instrumentation centre
 - (d) No High performance computing centre

- (e) No new post for technicians and computer enabled persons, security to handle the laboratory equipments and office management.

Opportunities :

- (a) Collaboration with other departments, nearby institutions and laboratories.
- (b) Interdisciplinary/multi-disciplinary research work
- (c) Involvement in socially relevant outreach program for the under privileged section of the society.
- (d) Helping disadvantaged women and children of the society
- (e) Motivating the students to become good human being

Challenges :

- (a) To contribute trained scientific manpower to the country.
- (b) To improve the quality of research and teaching.
- (c) To take the leadership in basic science training in the State.
- (e) Participation in International faculty exchange programmes and patents.
- (f) International student exchange program

52. Future plans of the department:

The Department of Physics is recognised nationally as a leading department because of the achievements and placements of the students and research contribution of the faculty members.

The Department would like to concentrate on the following research areas:

(A) India based Neutrino Observatory (INO) collaboration

INO is a proposed underground laboratory which aims to study the properties and interactions of fundamental particles called neutrinos. The study of neutrinos is related to various fundamental aspects of Particle Physics, Cosmology, origin of the Universe, energy production mechanism in Sun and other stars. The primary objective of the INO is to determine more precisely the neutrino oscillation parameters using atmospheric neutrinos.,

(B) Proposal to revive collaboration in KEK-B project and BELLE experiments at Japan

The goal of BELLE experiment is to understand CP violation in B-meson decays, Physics beyond Standard model etc. Earlier many of our students have actively participated in the BELLE-I experiment at KEK, Japan.

(C) Collaboration in Large Hadron Collider Experiment, CERN.

The Large Hadron Collider (LHC), the biggest particle accelerator in the world, is situated in CERN, Geneva, Switzerland. The main aim of LHC is to discover supersymmetric particles, extra dimensions, quark gluon plasma phase of matter, to understand dark matter and dark energy, evolution of the universe, precision measurement of Higgs Boson. Many of our former M.Sc. students have worked and contributed significantly to the experiments going on at CERN.

(D) Setting up a low energy Accelerator Facility

We propose to set up a low energy accelerator facility in the University for research as well as training of students. The facility will be used for research in the fields of Physics, Chemistry, Biology and possibly Anthropology. The intended machine will be a high current type system which is not available in and around Bhubaneswar. Therefore, it will be used by the entire research community in the State.

(E) Testing Isotropy of Cosmos with Planck data

A major assumption of the cosmological standard model is the cosmological principle which states that the universe is homogeneous and isotropic on large distance scale. Today there is considerable evidence, which may support this assumption. The possible violation of global isotropy in the CMB has been a subject of intense research after the publication of WMAP data. It would be interesting to explore new observables to determine whether the CMB sky is a realization of statistically isotropic or not.

(F) Acoustic oscillations in relativistic heavy-ion collisions with cosmic microwave background radiation

Relativistic heavy-ion collision experiments (RHIC) are often termed as Little Bangs in analogy of the Big Bang representing the initial stage of the Universe. Indeed, there are tempting similarities between the early universe and these experiments. We plan to explore the similarity of acoustic oscillations observed in CMBR with that of the acoustic oscillations in RHIC.

(G) Materials Engineering using Ion Beams

Ion implantation and ion beam synthesis of compounds, control of implantation profiles by multiple ion implants and use of ion beam mixing are the emerging new techniques having profound implications in such areas of research as nano-technology, tribiology, biotechnology, bactericidal activity, magneto-electrics polymer modification etc. Thus, ions ranging from a few keV to several hundred MeV available at different accelerators in the country can induce new and advanced functionalities in materials.

(H) Nanoscience with ion beams

The issue of the evolution of nano-particles under ion-irradiation has generated a lot of controversy over the last decade. We plan to focus on surface morphology of nano particle thin films under swift heavy ion irradiation, texturing of nano particle thin films by thermal annealing and ion irradiation, ion irradiation induced structural phase transition in nano particles.

(I) Materials modification by energetic ion induced secondary electrons

Secondary electrons emanating from ion paths are generally ignored in the process of materials modification due to their low energies. Our in-situ temperature dependent resistivity and x-ray diffraction study has established the suppression of superconducting transition. This study has opened up yet another mode of ion irradiation induced materials modification. The consequences of this new way of modifying matter will be explored in different systems.

- (J) Photo induced Optical properties study in Chalcogenide Thin films

Diffusion in amorphous materials remains a fundamental open question for understanding many physical processes that occurred in disordered system. The photo induced diffusion is exhibited by Ag, Zn, Bi, and Se and the mechanism of photo induced diffusion for different elements may be different. So our problem is to study the effect of diffusion of Bi into some specific chalcogenides like As_2Se_3 , As_2Te_3 etc. induced by light, heat and by energetic ions.

- (K) To set up a centralized sophisticated Instrumentation Centre

- (L) To set up a High Performance Computing Centre

Annexure-I

Research Publications (2010-2015):

2010

Publications in Peer Reviewed Journals :

1. Surface Smoothing of NiO Thin Films Under Swift Heavy Ion Irradiation, P. Mallick, Chandana Rath, Jai Prakash, D.K. Mishra, R.J. Choudhary, D.M. Phase, A. Tripathi, D.K. Avasthi, D. Kanjilal and N.C. Mishra, *Int. J. Mater. Sc.*, 5, 723-729 (2010)
2. Evolution of structural and microstructural properties of TiO₂ nanocrystalline thin films under swift heavy ion irradiation, N.C. Mishra and Haripriya Rath, *Int. J. Mater. Sc.*, 5, 639-650 (2010)
3. Selective disorder in the CuO basal planes of YBa₂Cu₃O_{7-y} by Swift Heavy Ion induced secondary electrons, R. Biswal, J. John, D. K. Avasthi, D. Kanjilal, P. Raychaudhuri and N. C. Mishra
Nuclear Instruments and Methods in Physics Research, B 268, 3325–3330 (2010)
4. Antiferro to superparamagnetic transition on Mn doping in NiO, P. Mallick, Chandana Rath, A. Banerjee and N. C. Mishra, *Sol. St. Com.* 150, 1342 (2010)
5. UV–visible studies of nickel oxide thin film grown by thermal oxidation of nickel P. Mohanty, Chandana Rath, P. Mallick, R. Biswal, N.C. Mishra, *Physica B* 405, 2711–2714 (2010)
6. Swift heavy ion irradiation induced modification of microstructure of NiO thin films, P. Mallick, Chandana Rath, Jai Prakash, D.K. Mishra, R.J. Choudhury, D.N. Phase, A. Tripathi, D.K. Avasthi, D. Kanjilal and N.C. Mishra, *Nuclear Instruments and Methods in Physics Research B* 268, 1613-1617 (2010)
7. Grain growth and crack formation in NiO thin films by swift heavy ion irradiation, P. Mallick, R. Biswal, Chandana Rath, D.C. Agarwal, A. Tripathi, D.K. Avasthi, D. Kanjilal, P.V. Satyam, N.C. Mishra, *Nuclear Instruments and Methods in Physics Research B* 268, 470–475 (2010)
8. Observation of grain growth in swift heavy ion irradiated NiO thin films, P Mallick, Chandana Rath, J K Dash, R Biswal, D C Agarwal, D Behera, D K Avasthi, D Kanjilal, P V Satyam and N C Mishra, *Indian J. Phys.* 84 (10), 1399-1404 (2010)
9. Surface modifications of ultra-thin gold films by swift heavy ion irradiation, P Dash, P Mallick, H Rath, B N Dash, A Tripathi, Jai Prakash, D K Avasthi, P V Satyam and N C Mishra, *Indian J. Phys.* 84 (10), 1391-1397 (2010)
10. Swift heavy ion irradiation induced modification of BiFeO₃ thin films prepared by sol-gel method B N Dash, Priyadarshini Dash, Haripriya Rath, P Mallick, R Biswal, P K Kulriya and N C Mishra, *Indian J. Phys.* 84 (10), 1315-1320 (2010)
11. BPS black holes, the Hesse potential and the topological string, Gabriel Lopes Cardoso, Bernard de Wit and Swapna Mahapatra, *Journal of High Energy Physics (JHEP)* 1006, 052, p1-29 (2010)
12. Astrophysical constraints on primordial black holes in Brans-Dicke theory B. Nayak, A.S. Majumdar, L.P. Singh, *JCAP* 1008, 039 (2010)

13. Note on nonstationarity and accretion of Primordial Black Holes in Brans-Dicke theory Bibekananda Nayak, Lambodar Prasad Singh .Phys.Rev. D82, 127301 (2010)
14. Supersymmetric standard model and its particle spectrum from four dimensional superstring B.B. Deo, L. Maharana ,Charney, Gerold B. (ed.): Superstring theory in the 21st Century 161-186 26 (2010).
15. On the representations of chiral alternative to vierbein, Karmadeva Maharana, arXiv:1004.4575 (hep-th) (2010).
16. Do Damped and Sub-damped Lyman-alpha Absorbers Arise in Galaxies of Different Masses? Varsha P. Kulkarni, Pushpa Khare, Debopam Som, Joseph Meiring, Donald G. York, Celine Peroux, James T. Lauroesch. New Astron. 15, 735-743 (2010)
17. Structural and electrical properties of nanostructured silicon carbon films, G.Ambrosone, D.K. Basa, U.Coscia, L.Santamaria, N.Pinto, M.Ficcadenti, L.Morresi, L.Craglia, R.Murri, Energy Proceedia, 2, 3 (2010)
18. Morphological and structural modifications induced in a- Si1-xCx : H films by the excimer laser annealing, U.Coscia, G.Ambrosone, D.K.Basa, E.Tresso, A.Chiodoni, N.Pinto, R.Murri, Appl. Phys. A, 100, 1163 (2010)
19. Correlation between structural and opto electronic properties of a- Si1-xCx : H films deposited by PECVD, G.Ambrosone, D.K.Basa, U.Coscia, P.Rava, Thin Solid Films,518,5871(2010)
20. Characterizations of nanostructured silicon carbon filmsdeposited on p-layer by PECVD U.Coscia, G.Ambrosone, D.K.Basa, S.Ferrero, P.Delli Veneri, L.V.Mercaldo, I.Usatii, M.Tucci, Physica Status Solidi, C,7,766 (2010)
21. Plasma treatment studies of MIS devices, D.K.Basa, Cent. Eur. J. Phys, 8,400 (2010)
22. Study on the excimer laser annealed amorphous hydrogenated silicon carbon films deposited by PECVD, G.Ambrosone, D.K.Basa U.Coscia, E.Tresso, A.Chiodoni, E.Celasco, N.Pinto,R.Murri, Physica Status Solidii, C,7,770 (2010)
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24. CMB Polarization and Temperature Power Spectra Estimation using Linear Combination of WMAP 5-year Maps.” Pramoda Kumar Samal, Rajib Saha, Jacques Delabrouille, Simon Prunet, Pankaj Jain, Tarun Souradeep , Astrophysical Journal, Volume 714, Issue 1, Pages: 840-851, (2010)
25. Compositional dependence on the optical properties of amorphous As_{2-x}S_{3-x}Sb_x thin films, Ramakanta Naik, R.Ganesan and K.S. Sangunni, *Thin Solid Films*, 518, 5437 (2010)
26. Photoinduced optical changes in Sb/As₂S₃ multilayered film and (As₂S₃)_{0.93}Sb_{0.07} film of equal thickness. Ramakanta Naik, R.Ganesan, K.S. Sangunni, *Journal of Alloys and Compounds*, 505,249 (2010)
27. Temperature dependent optical constants of amorphous Ge₂Sb₂Te₅ thin films. Vinod E. M., Ramakanta Naik, A. P. A. Faiyas, R. Ganesan, K. S. Sangunni, *Journal of Non-Crystalline Solids*, 356, 2172 (2010)
28. Nuclear Structure correction on Parity Non-conservation in heavy ions, P.K. Panda and B.P. Das Ind. J. Phys. 84, 817 (2010).

29. Warm stellar matter within the Quark Meson Coupling Model, P. K. Panda, D.P. Menezes, C. Providencia, Phys. Rev. C 82, 045801 (2010).
30. Study of the Asymmetric nuclear matter with pion dressing, S. Sarangi, P.K. Panda, S. K. Sahu, L. Maharana, Ind. J. Phys. 84, 431 (2010)
31. Influence of Viscoelastic Behaviour During Peeling of an Adhesive Tape., Jagadish Kumar, G. Ananthakrishna, Physical Review E, 82, 016211, (2010).
32. Correlation Between Stick-Slip Frictional Sliding and Charge Transfer., Jagadish Kumar, G. Ananthakrishna, Physical Review B, 82, 075414, (2010).
33. η/s at finite coupling, Shesansu Sekhar Pal, Phys.Rev. D81, 045005 (2010)
34. Quantum phase transition in a Dp-Dq system, Shesansu Sekhar Pal Phys.Rev. D82, 086013 (2010)

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1. Effect of Oxygen Vacancy on Magnetic Properties of $Ti_{1-x}Co_xO_2$ Nanoparticles, P. Mohanty, P. Mallick, N.C. Mishra, A. Banerjee, T. Shripathi and Chandana Rath, International Journal of Nanotechnology and Applications. 5, 4, 383-393 (2011)
2. Ultraviolet visible spectroscopy of CdS nano-wires doped ferroelectric liquid crystal, K. Pal, U.N. Maiti, T.P. Majumder, P. Dash, N.C. Mishra, N. Bennis, J.M. Otón, Journal of Molecular Liquids, 164, 233-238 (2011)
3. Mesoscopic inhomogeneity creation in $YBa_2Cu_3O_{7-y}$ thin film by swift heavy ion irradiation at low temperature, R. Biswal, J. John, P. Raychaudhuri, D. Behera, T. Mohanty, D. K. Avasthi, D. Kanjilal and N.C. Mishra, Radiation Effects and Defects in Solids, 166, 628-634 (2011).
4. Surface evolution of titanium oxide thin film with swift heavy ion irradiation, H. Rath, P. Dash, T. Som, Jai Prakash, A. Tripathi, D.K. Avasthi, U.P. Singh and N.C. Mishra, Radiation Effects & Defects in Solids, 166, 571- 577 (2011).
5. Swift heavy ion irradiation-induced phase transformation in oxide materials, N. C. Mishra, Radiation Effects & Defects in Solids, 166 (8-9), 657-665 (2011)
6. Accretion, Primordial Black Holes and Standard Cosmology, Bibekananda Nayak, Lambodar Prasad Singh, Pramana 76, 173-181 (2011)
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8. Gravitating magnetic monopole in Vaidya geometry, Sushant G. Ghosh, L.P. Singh, Phys.Rev. D83, 067501 (2011)
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11. SOAR Imaging of sub-Damped Lyman-Alpha Systems at $z < 1$, Joseph D. Meiring, James T. Lauroesch, Lutz Haberkott, Varsha P. Kulkarni, Celine Peroux, Pushpa Khare, Donald G. York. Mon.Not.Roy. Astron.Soc. 410, 2516 (2011).
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- Lundgren, Varsha P. Kulkarni. arXiv:1109.4225v1 [astro-ph.CO] , Mon. Not. R. Astron. Soc ,20 Sep (2011)
13. Role of carbon content in tuning the physical quantities of a-Si_{1-x}C_x:H alloys deposited by PECVD, G.Ambrosone, D.K.Basa, U.Coscia, A.Le Donne, S.Binetti, Phys. Status. Solidii C,8,800 (2011).
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Annexure-II

A Partial List of students in National Institutions for Ph.D.
(2010-15)

Sl. No.	Name	Institute
1	KASINATH DAS	HRI
2	MIHIR RANJAN SAHOO	IIT BBSR
3	JITENDRA KUMAR PRADHAN	IIT Kanpur
4	SUBRAT SENAPATI	IISc, Bangalore
5	SUDIPTA MAHANA	IOP
6	BISWAJIT BEHERA	UTKAL Univ
7	KISHORA NAYAK	NISER
8	NAMRATA PATTANAYAK	IISER Pune
9	SUBHALAXMI RATH	IIT Roorkee
10	NARENDRA TANTY	IISc, Bangalore
11	PRAGATI SAHOO	IIT Indore
12	DEBADEEPTI MISHRA	NISER
13	ANTARJAMI SAHOO	IIT Chennai
14	SORNA PRAVA BARIK	IIT Kharagpur
15	MANAS KUMAR KHATUA	INO,Mumbai
16	JAGANNATH JENA	IIT Kanpur
17	NIRAKAR SAHOO	IIT Hyd
18	PRADIP KUMAR ACHARYA	IIT Gouhati
19	SAGAR SEKHAR MAHALIK	IPR Ahmedabad
20	SUSHREE SUBHADARSHINEE SAHOO	NISER
21	GYANA RANJAN SAHOO	IIT Kanpur
22	BISWARANJAN BEHERA	IIT Hyderabad
23	JOGESH ROUT	JNU
24	SHASHIBHUSAN MISHRA	IIT Chennai
25	BIKASH CHANDRA SWAIN	ISM Dhanbad
26	SAGARIKA NAYAK	NISER
27	HIMANSHU BHUSAN NAYAK	ISM, Dhanbad
28	ARAVIND KHUNTIA	IIT Indore
29	PRADOSH KUMAR SAHOO	IGCAR
30	DUSHMANTA KARA	NISER
31	ASCHARYA KUMAR KAR	IIT-BBSR
32	DEEPALI MISHRA	NISER
33	RUDRA PRASAD JENA	IUC Indore
34	P. KARUNA KUMARI	IIT Hyd
35	DEBASISH MALLICK	IOP
36	SASWATI DHARA	IIT Mumbai
37	ANIL KUMAR BEHERA	IGCAR
38	BISWAJYOTI MOHANTY	ISM Dhanbad
39	RAJESH SATPATHY	SOA Univ

40	MANORANJAN SAHOO	IIT Patna
41	SANTANU KUMAR PARIDA	IGCAR
42	RANJIT KUMAR NAYAK	IIT Mumbai
43	GOPINATH SAHOO	IGCAR
44	SWAYAMSIDHA MISHRA	NISER
45	SAGARIKA NAYAK	IIT BBSR
46	SNIGDHA SARITA PATI	NISER
47	PRASANT KUMAR ROUT	SINP
48	SHAKAMBHARI SADANGI	BARC(DRP)
49	SOUMENDRA PATTANAYAK	BARC
50	BIBHUTI BHUSAN JENA	SINP
51	ITISHREE SETHI	IIT Hyd
52	SATYABRATA SINGH	USA
53	PRAVASINI SWAIN	NISER
54	PRAGYNA PARIMITA SWAIN	IGCAR
55	IJEE MOHANTY	IGCAR
56	DILLIP KUMAR SAHOO	BARC(DRP)
57	RADHANATH MISHRA	IIT BBSR

Annexure-III

ACHIEVEMENTS OF OUR STUDENTS AS FACULTY MEMBERS IN REPUTED ACADEMIC INSTITUTIONS & IN ADMINISTRATIVE POSITIONS

Prof. Asoka Kumar Das	(Present Vice Chancellor, Utkal University, Bhubaneswar)
Prof. K.C.Mishra	(Former VC, Sri Sri University, Odisha)
TIFR, Bombay:	Dr. Rudrajyoti Palit, Dr. Gagan Bihari Mohanty , Prof.S.N.Mishra, Dr Pravat K Mohanty
IUCAA, Pune:	Dr. R. Srianand (<i>BHATNAGAR AWARDEE</i>)
IOP, Bhubaneswar:	Prof. D.P. Mahapatra (Visiting Scientist, JPL, NASA) Dr. Pradip Sahu Dr Arun Kumar Nayak Dr Debakanta Samal
NISER, Bhubaneswar:	Dr. Bedanga Das Mohanty (SWARNA JAYANTI AWARDEE & <i>BHATNAGAR AWARDEE</i>) Dr. Sanjay Swain, (Spokesperson CMS B-Physics) Dr.Subhankar Bedanta, Dr. Prasanjit Samal, Dr. Ashok Mohapatra , Dr. Kartik Senapati Dr. Collin Benjamin
IISER, Bhopal:	Dr. Sukanta Panda
IISER, Trivandrum:	Dr. Ramesh Nath
IISER, Kolkata:	Dr. Satyabrata Raj
IIT, Bhubaneswar:	Dr. Niharika Mohapatra, Dr. Seema Bahinipati Dr. Chandra Sekhar Rout
IIT, Madras:	Dr. Prafulla Behera, Dr. Dillip Satapathy
IIT, Bombay:	Dr. Basanta Nandi (<i>HOTTEST RESEARCHER 2007</i>), Dr. Sadhana Dash
IIT, Delhi :	Prof. U.C.Mohanty (<i>BHATNAGAR AWARDEE</i>), Dr. Pranab Muduli, Dr. Amruta Mishra
IIT Guwahati	Dr. Tapan Mishra
IIT, Roorkee:	Dr.Tulika Maitra

IIT, Hyderabad:	Dr. Anjan Giri
IIT, Indore:	Dr. Ragnunath Sahu
VECC, Kolkata:	Dr. Tapan Kumar Nayak
IMSc, Chennai:	Dr. Sanatan Digal
NPL, New Delhi	Dr. Manas Kumar Dalai
National Inst. Immunology	Dr. Bichitra Biswal
Central University, Hyderabad	Dr. Rukmini Mohanta
JNU, New Delhi:	Dr. Tanuja Mohanty
Delhi University:	Dr. Supriya Kar,
BHU, Banaras:	Dr. Chandana Rath
PRL, Ahmedabad:	Dr. Sachindra Nayak,
	Dr. Bijay Kumar Sahoo
Michigan Technological	
University,USA	Prof. Ranjit Pati
University of California,USA	Prof. Asish Satpathy
University of Texas,	
A&M, USA:	Prof. Bibhudutta Rout
IIST, Trivandrum	Dr Anandamayee Tej
IAS	Mr Gopinath Mohanty,
	Ms Tinku Biswal
IFS	Mr. Sidhanta Das
Bhabha Atomic Research Center(BARC) / Defence Research & Development Organization (DRDO) : – About 50	



Post Graduate Department of STATISTICS



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department P.G. DEPARTMENT OF STATISTICS
2. Year of establishment 1958
3. Is the Department part of a School/Faculty of the university? Faculty of Science
4. Names of programmes offered :PG, M.Phil. & Ph.D., M. Tech.(IT)- Self financing
5. Interdisciplinary programmes and departments involved
Integrated MCA, M.Sc.(COMP. SC.) , M. Tech.(COMP. SC.) - Dept. of Mathematics,
Dept. of Computer Sc. & Applications
6. Courses in collaboration with other universities, industries, foreign institutions, etc.:
Courses in collaboration with Ravenshaw University are under negotiation.
7. Details of programmes discontinued, if any, with reasons: NIL
8. Examination System: Semester-Based Choice Based Credit System
9. Participation of the department in the courses offered by other departments
:Mathematics, Computer Science, Biotechnology, Zoology, Political Science, Women
Studies & Pharmacy
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate
Professors/Asst. Professors/others)

Category	Sanctioned	Filled	Actual Including CAS & MPS
Professor	2	0	1
Associate Professor	2	1	1
Asst. Professor	4	2	1
Others	0	0	0

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

Name of Faculty	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
P.K.Tripathy	M.Sc., Ph.D.	Professor	Operations Research.& Demography	30	Ph.D. 12, M.Phil. 22
K.B.Panda	M.Sc., C.P.S. , M.Phil., Ph.D.	Reader	Survey Sampling, Linear Model & Regression Analysis	25	M.Phil 09
R.K.Sahoo	M.A., M.Phil., Ph.D.	Lecturer	Survey Sampling, Image processing, Demography, Inference	15	Ph.D. 1, M.Phil. 07

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors Prof. G. Mishra, Dr P.Pradhan,Dr B.K. Pradhan, Prof. L.N.Sahoo(Emeritus Fellow)

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

Programme	Percentage of classes taken
P.G.	9%
M.Phil.	25%
Ph.D.	40%

14. Programme-wise Student Teacher Ratio:

Programme	Student Teacher Ratio
P.G.	16:1
M.Phil.	2:1
Ph.D.	3:1

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

Category	Sanctioned	Filled	Actual
Academic support staff(tech.)	02	02	02
Administrative Staff	01	01	01
Administrative support staff	02	02	02

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

Thrust Area	Funding Agency
Deterministic Inventory Models	DST-PURSE
Demographic Models of Fertility	DST-PURSE
Predictive Estimation in Two-Phase Sampling	DST-PURSE
Generalized class of estimators in Two Stage Sampling	DST-PURSE

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:

Funding Agency	National/ International	Number of Faculty	Project Title	Amount received in Rs.
UGC	National	5	Infrastructure Development	6 ,00,000/-
DST	National	5	PURSE	24 ,22 ,300/-

18. Inter-institutional collaborative projects and associated grants received

National/International	Grants in Rs.
National Academy of Statistical Administration (NASA), New Delhi	50,000/-
National Sample Survey Office (NSSO), Regional Directorate, Bhubaneswar	20,000/-
Indo-Afghan Joint Venture in Statistics	NIL

19. Departmental projects funded by **DST-FIST**; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. : Rs 30,22,300/- (Refer serial no.17 for details)

20. Research facility / centre with
- state recognition : Directorate of Economics and Statistics, Govt. of Odisha
 - national recognition : NIL
 - international recognition : NIL
21. Special research laboratories sponsored by / created by industry or corporate bodies:
Prof. Sadhu Charan Das Memorial Computer Laboratory partially supported by Centre for IT Education.
22. Publications: (Please see Annexure-I)

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

Name of Faculty	National	International	Total
Prof G Mishra	17	02	19
Prof. L.N.Sahoo	09	18	27
Prof.P.K.Tripathy	02	10	12
Dr. K.B.Panda	02	01	03
Dr. R.K.Sahoo	01	-	01
Total	31	31	62

* Monographs --

* Chapters in Books - 03

* Edited Books - 01

* Books with ISBN with details of publishers - 03

* 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

(See Annexure for details of Publications during 2010-15)

23. Details of patents and income generated: No Patents, NIL

24. Areas of consultancy and income generated :

Name	Area of consultancy	Income Rs.
Prof.GMishra	India Statistical Strengthening Project, GoI&GoO	NIL
Prof. P. K.Tripathy	India Statistical Strengthening Project, GoI&GoO	NIL
Dr. K.B.Panda	Statistical Survey of Govt. of Odisha	NIL
Dr .R.K.Sahoo	Sand Mining, Actionaid	Rs.20,000

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

Name of Faculty	Institutions Visited	Year
Prof. G. Mishra	NASA, New Delhi	2011
	Andhra University ,Visakhapatnam	2012
	M.G.University, Banaras	2013
	Central univ- Tripur	2013
	Pt.R.S.Shukla University, Raipur	2013
	Berdwan University, Berdwan	2013
Prof. L.N Sahoo	Indian School of Mines, Dhanbad	2010
	Osmania University	2010
Prof. P.K. Tripathy	Pt.R.S.Shukla University, Raipur	2013
	Punjab University, Chandigarh	2014
Dr K.B Panda	Indian Statistical Institute , kolkata	2015
	Central university of South Bihar ,Patna	2015
Dr R.K.Sahoo	Central university of South Bihar ,Patna	2015

26.

- a) National committees (2) b) International committees c) Editorial Boards (2) d) any other (please specify)

Name of Faculty	National Committee	Editorial Boards	any other (BOS in Stat.)
Prof. G. Mishra	MG Univ. Varanasi Andhra Univ., AP Central Univ., Odisha		Central Univ- Tripura PtR.S.Shukla University, Raipur
Prof. L.N Sahoo	I.S.M., Dhanbad Osmania Univ. Hyderabad	Int. Jour. Agrl. & Stat. Sc. Pak.Jour.of Stat., Aligarh Jour. of Stat.	
Prof. P.K. Tripathy	Central Univ. Odisha O.P.S.C.	Inter. Jour. of Stat. & System Inter.Jour.Appl.Maths.& Comp	Ravenshaw Univ., FM Univ., Berha Univ.
Dr. K.B. Panda	Staff Selection Commission, GoO SCSTRTI, GoO		Ravenshaw Univ. Ramadevi (W) Univ.
Dr. R.K. Sahoo			Govt.(Auto) College, Rourkela

27. Faculty recharging strategies (UGC, ASC, Refresher (2)/ orientation programs, workshops, training programs and similar programs). :

Programs held in the Department:

Year	Refresher/Orientation
2012	UGC Refresher Course in Research Methodology
2013	UGC Refresher Course in Mathematical Sciences: Statistics & Applications
2014	National Workshop in Official Statistics sponsored by NASA

Programs attended by faculty members:

Name of the Faculty	Year	Instructive Course
K.B. Panda	2010	Orientation Course on Human Values in Education, held in Utkal University
R.K. Sahoo	2010	Orientation Course on Human Values in Education, held in Utkal University
	2011	Short term course in SPSS held in Utkal University
	2012	Faculty development program held in Utkal University
	2015	Quantitative Research Methods in education at NUEPA, New Delhi

28. Student projects

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

Type	P.G.	M.Phil.	Pre-Doctoral Course work
In-House projects	80	100	100
Projects in collaboration with other institutions	20	0	0

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

- Faculty : NIL
- Doctoral / post-doctoral fellows : NIL
- Students : 06 (In Essay competition held by NSSO on the eve of National Statistics Day i.e.,29th june)

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

Year	International/National Seminars/Workshop	Outstanding Participants
2012	UGC Sponsored National Seminar-	1. Prof. K.L.A.P. Sharma,

	Stochastic Modeling & Design of Experiment	S.K. University , Anantapur , AP 2. Prof. Kishore Sinha, Ranchi, Jharkand 3. Prof. A.K.P.C. Swain, Bhubaneswar 4. Dr. U. Rout, Ex-HOD Ravenshaw University
2014	National Seminar on Emerging Trends in Statistics & Societal Applications-By UGC & DST -Purse	1. Sri D.Sahoo, ADG NSSO, BBSR 2. Sri B. Mahapatra, AD NSSO, BBSR 3. Prof. G. Mishra 4. Prof. G.K. Panda
2014	National Workshop on Emerging Trends in Official Statistics- sponsored by NASA	1. Sri I.Srinivas, DC Govt. of Odisha 2. Mrs. B. Dutta, ISS Kolkutta 3. J. Singh, Dir. NASA New Delhi 4. Sri Panchanan Dash, P&C dept., Govt. of Odisha 5. Prof. A.K.P.C. Swain
2014	National Workshop on Latest Trends & Application in Statistics & celebration of International year of Statistics partially supported by UGC & ORSI-Bhubaneswar Chapter	1. Prof. A. Tripathy, IIM A 2. Prof. S.Nanda, IIT K 3. Prof T. Srivenkatraman, Bengaluru 4. Sri B. Mahapatra, ISS BBSR

31 Code of ethics for research followed by the departments

Dept. is committed to undertake research with scientific integrity and in conformity with the accepted code of principles, good research practices. Plagiarism shall be checked by the dept. as far as possible.

32 Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
P.G	330	98	61	68	85
M.PHIL	70	17	11	100	100
PH.D (pre doctoral coursework)	67	21	11	100	100

33 Diversity of students

Name of the Programme (refer question no.4)	% of student from same university	% of student from other universities within the State	% of student from universities outside the State	% of student from other Countries
PG	601	28	1	0
M.Phil.	24	5	1	0
Ph.D.	19	2	3	0

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

Competitive Examinations	No.
ISS	1
NET	3
Inspire fellowship	1
Rajiv Gandhi fellowship	1
OES	3
Others	37

35. Student progression Percentage

Student progression		Percentage against enrolled
UG to PG		70
PG to M.Phil.		20
PG to Ph.D.		10
Ph.D. to Post-Doctoral		0
Employed		
<input type="checkbox"/>	Campus selection	8
<input type="checkbox"/>	Other than campus recruitment	60
Entrepreneurs		10

36. Diversity of staff

Percentage of faculty who are graduates of the same university	100
Other universities within the state	0
From universities of other states	0
From university outside the country	0

37. Number of Faculty who are 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	1210
Internet facilities for staff and students	14
Total number of class rooms	6
Class rooms with ICT facility	3
Students' laboratories	1
Research laboratories	NIL

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

a) from the host institution/university 11

b) from other institutions/universities 0

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

Category	Number
Post matric Scholarship	21
Prerana	21
Inspire fellowship	1
Rajiv Gandhi fellowship	1
Others	4

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

Yes. 1. CBCS has been implemented for the last two years.

2. Ph.D. Course Work is in force since 2012.

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. By periodical revision of syllabus and taking recourse to modern teaching aids such as ICT and interactive approach.

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

Yes. All their suggestions are considered on priority basis. The staff members are advised to handle or change their methods of teaching as suited to the basic needs of the students.

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

Yes. Their valuable suggestions are taken into consideration. Syllabus revised accordingly.

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

Name of Alumnus	Post held
Prof. J Sarangi	Former Prof, & Head, P.G. Dept. of Stat., UU
Prof. A.K.P.C. Swain	Former Prof, & Head, P.G. Dept. of Stat., UU
Sj. Lokanath Sarangi	Former Spl Secy. Planning & Coordination, GoO.
Sri Yogeswar Dash	Former DG, NSSO, GoI
Dr Paramanda Nayak	Secy., Textiles Committee, GoI
Sri Dasarathi Das	DDG, NSSO, GoI
Sri Anjan Kumar Jena	DDG, Income Tax, GoI
Sri Panchanan Dash	Secy., MSME, GoO
Sri Baikuntha Nayak	Sr. Consultant, New York State Insurance Company, New York
Mrs. Nirupam Mohapatra	Technical Director, NIC, GoI
Sri Bijay Kumar Dash	Director, Export, Promotion & Marketing, GoI

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

Sl No.	Date	Speaker	Topic
1	30.11.2011	Sri P.K. Mishra, ISS Afghanistan	Scope of Sample Survey Designs in Afghanistan
2	20.04.2014	Sri S. Majhi, ISS, NASA, New Delhi	Career counseling in respect of ISS
3	25-01-2015	Sri K.M. Satpathy, Ex-JS Govt. of Odisha	On JanDhan scheme of Govt. of India
4	27-01-2015	Prof. B. Mohanty, VOLVO, Bengaluru	CPM and PERT
5	02-05-2015	Sri S.Das, Chief of HDF, Bhubaneswar	Interdisciplinary Research in Statistics and Environment
6	03-07-2015	Prof A.K. Sinha, CUB, Patna	Application of Ranked Set Sampling
7	24-07-2015	Prof. K. Sinha, Ranchi	Optimal Experimental Designs
8	07-08-2015	Prof. D. Bhattacharya, Biswabharati University	Confidence Interval on Dependent Set
9	03-09-2015	Smt. S. Panda, IGNOU counsellor	Micro Economics
10	07-09-2015	Sri D.Sahoo, Ex-ADG NSSO	Marginal Utility Theory

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

Programs	Teaching Methods
P.G.	ICT, Computer Lab Practical, Wednesday Seminars
M.Phil.	Project Work discussion, Live Project Demo, Interactive Seminars
Ph.D.	Project Work discussion, Live Project Demo, Interactive Seminars

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
By getting feedback from the stake holders, board of studies, academic council, teachers' council meeting, internal assessment through assignment, quiz, etc.
1. Use of ICT
 2. Interactive Method of Teaching
 3. Continuous evaluation system
 4. Remedial classes & proctorial classes
47. Highlight the participation of students and faculty in extension activities.
NSS/ BLOOD DONATION CAMP/ SWACHHA AVIYAN, STUDY TOUR PROGRAMMES
48. Give details of “beyond syllabus scholarly activities” of the department.
Utkal Statistics Alumni Association helps in giving extra mural lectures on development economics, monitoring and evaluation and applications of statistics in agriculture, health and industries. Wednesday research seminar, exposure visit to national statistical organizations, mentoring the PG students by research scholars, professional society activity, faculty alumni get together. Cultural activities, Quiz /Debate competitions are conducted in the Dept. Students also contribute to the wall magazine & publication.
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.
We are guiding students to meet All India competitive examination of Indian Statistical Service, SSC. Dept. is conducting workshops in collaboration with national organization like UGC, DST, NASA, NSSO, & state level Organizations such as DES. The department contributed to knowledge in the fields of advanced optimization modeling, model based systematic sampling, predictive estimation in 2- phase sampling, fitting of statistical models on rainfall data, weather forecasting, etc. The department has recently published a magazine entitled “ParishankhyanaPrativa” to encourage students to keep up their literary activities
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths :

- Experienced & highly qualified faculties
- Well-equipped comp. laboratory with internet facilities
- ICT method of teaching
- Effective alumni association
- Regular seminars by outside experts

Weaknesses:

- Lack of conference hall
- Lack of campus placement
- Outside exposure is not enough
- Adequate space (for separate boys & girls common room)
- Faculty position

Opportunities:

- Interdisciplinary research
- Placement in corporate sectors
- Overall job prospects
- Self employment
- Software development

Challenges :

- Shortage of teaching staff
- Lack of feeder degree colleges offering Statistics as a Hons. subject
- Popularization of the subject in the state
- Provision of campus selection in statistics
- Opening Actuarial Statistics Course in the dept. in self -financing mode

52. Future plans of the department:

1. To impress upon the higher authority for filling up of faculty positions
2. To create more infrastructure facilities like conference hall, high end computer lab, separate common rooms for boys & girls, reading room, etc.,
3. To accelerate ICT mode of teaching
4. To conduct seminars/conferences/workshops at regular intervals
5. To provide students with training on statistical packages SPSS, MATLAB, MINITAB, etc.
6. To arrange for campus selection in Statistics
7. To publish a research journal of the department with ISSN
8. To adopt a village school with a view to creating awareness on statistics and computer literacy

Annexure-I

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An Inventory Model With Linear Demand Rate For Deteriorating Items, With Partial Backlogging, *G. Mishra and L.K.Raju*, International Jour. of Mathematical Sciences, Technology and Humanities. 86, p.965-972, 2013.

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Bloomsbury

Publications, page no. 416-428, 2012.



Post Graduate Department of ZOOLOGY



EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department : P.G. DEPARTMENT OF ZOOLOGY
2. Year of establishment : 1960
3. Is the Department part of a School/Faculty of the university? Faculty of Science
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., etc.) : P.G., M.Phil., Ph.D., D.Sc.
5. Interdisciplinary programmes and departments involved:
 - a) Nano-Biotechnology research collaboration with department of Biotechnology, Botany, Chemistry and Physics.
 - b) Sponsored course offered: Master in Fishery Science
6. Courses in collaboration with other universities, industries, foreign institutions, etc. : Nil
7. Details of programmes discontinued, if any, with reasons: Nil
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System:

M.Sc : Semester with Choice Based Credit System

M.Phil : Semester

Pre Phd : Semester
9. Participation of the department in the courses offered by other department:
 - a) Provision for students to opt for elective courses offered by other departments under choice based credit system
 - b) Our department offers following courses (Allied elective) to students of other departments (Anthropology, Biotechnology, Botany, Chemistry, Physics, Statistics)
 - Biology of reproduction
 - World of microbes
 - Wildlife
 - c) The department also offers Free elective courses to students of all P.G. Departments as follows
 - Conservation Biology and Biodiversity
 - Genetic Disorders and Genetic Counseling
 - Human Physiology
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled					Actual including CAS				
		2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2011-12	2012-13	2013-14	2014-15
Professor	2	0	0	0	0	1	03	03	02	02	03*
Associate Professors/Reader	4	0	0	0	0	0	01	01	01	01	01
Asst. Professor/Lecturer	6	0	0	0	0	1	0	0	0	0	01

- One professor has retired on 31.3.2015

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
Prof. A.K. Patra	Ph.D.	Professor	Environmental biology**	28	Ph.D.=12, M.Phil=14
Prof. S. Das	Ph.D.	Professor	Neurobiology*	31	Ph.D.= 01, M.Phil=8
Prof. P. K. Mohanty	Ph.D.	Professor	Cytogenetics	33	Ph.D.= 11, M.Phil=16
Prof. P. K. Mahapatra	Ph.D.	Professor	Developmental Biology	20	Ph.D.=5, M.Phil=15
Dr. G. Sahoo	Ph.D.	Reader	Cytogenetics	15	PhD=3, M.Phil.=10
Dr. S. S. Nishank	Ph.D.	Lecturer	Human Genetics	3	Nil

*At present retired ** Retired but presently UGC Emeritus fellow

12. List of senior Visiting Fellows, adjunct faculty, Emeritus professors, Visiting professor, Guest faculty UGC

Sr. visiting fellows/Guest faculty UGC					Adjunct faculty					Emeritus professor/ Honorary Guest faculty				
2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2011-12	2012-13	2013-14	2014-15
-	-	-	-	02	-	-	-	-	-	-	-	-	-	02

1. Prof. B. C. Guru (Guest faculty, UGC)
2. Prof. T. Kar (Guest faculty, UGC)
3. Prof. A. K. Patra (Emeritus Professor UGC)
4. Prof. S. Das (Honorary Guest faculty)

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

Programme	Percent of classes by Temporary faculty
M.Sc.	5
M.Phil.	5
Ph.D.	Nil

14. Programme-wise Student Teacher Ratio

Programme	Student Teacher ratio 2010-11	Student Teacher ratio 2011-12	Student Teacher ratio 2012-13	Student Teacher ratio 2013-14	Student Teacher ratio 2014-15	Average
M.Sc.	16:1	16:1	21.2:1	21.2:1	12.5:1	17.38:1
M.Phil.	2.5:1	2.5:1	3.3:1	3.3:1	2:1	2.72:1
Ph.D.	5.4:1	4:1	3.3:1	4:1	4:1	4.14:1

15. Number of academic support staff and (administrative staff: sanctioned, filled and actual (2010-15)

Post	Sanctioned	Filled	Actual
Office Assistant	1	1	1
Typist	1	1	1

Demonstrator	6	6	1
Laboratory Attendant	4	4	4
Store keeper	1	1	1
Artist cum photographer	1	1	0
Research assistant	1	1	0
Technical Assistant	1	1	0
Specimen collector	1	1	0
Sweeper	1	1	0
Peon	1	1	1
Bearer	1	1	0

16. Research thrust areas as recognized by major funding agencies: DST-PURSE: Haemocytology of vertebrates

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. 01, Completed

Funding agency	Project title	Grants received
DST, Govt. India	Role of lysosomal enzymes, oxidative stress and hoxb8 gene expression in regulating trans differentiation of regenerating tail tissue of frog larva.	Rs. 15.0 Lakhs
SERB (DST), Govt. of India	Systematics of select amphibian species using their larval morphology and ontogeny	Rs. 35.66 Lakhs

18. Inter-institutional collaborative projects without financial assistance.

a) National collaboration

Collaborative projects	Collaborative Organisation	Project title
National	Central Poultry Development Organisation, BBSR	Haematology of poultry birds
	Nandan Kanan Zoo, BBSR	Haematology of captive wild animals
	Acharya Harihar Research Centre for Cancer, Cuttack	Oral squamous cell carcinoma
	SCB Medical College, Cuttack	Paediatric leukemia breast carcinoma
	Wildlife Institute of India, Dehradun	Skeletochronology of sea turtles
	CIFA, BBSR	Effect of pathogenic bacteria on fishes
	ILS, Bhubaneswar	Cellular and Immunological responses during chikungunya virus infection in mammals
	CCMB, Hyderabad	Systematics of select amphibian species using their larval morphology and ontogeny
International	Uppsala University, Sweden	Adaptive divergence along environmental gradients: roles of a candidate gene and ecological trade-offs

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

Departmental projects funded by	Project title/ Thrust area	Grant received
DST- -PURSE	Haemocytology of vertebrates	Rs.69, 38, 206/-

20. Research facility / centre with
- State recognition : Nil
 - National recognition : DST-PURSE
 - International recognition : Nil
21. Special research laboratories sponsored by / created by industry or corporate bodies: Nil
22. Publications: List of papers enclosed (Annexure I)
- Number of papers published in peer reviewed journals (national / international):
- Papers: 92 (International 33, National 59, Impact factor 0.24 to 2.53. Hindex 49-53)
- Book chapters: 4, Conference proceedings: 08

	International					National				
	2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2011-12	2012-13	2013-14	2014-15
Peer Review Journals	6	5	8	10	4	7	13	13	14	12
Book Chapters	-	-	-	-	-	1	1	1	-	1
Conference proceedings						4	1	1	2	

Books: 6 International with ISBN=1, National with ISBN=2, National =3

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

Name of the Faculty	Institute /University Visited Nationally
Prof. PK Mohanty	Ranchi University North Bengal University Kalyani University Shantiniketan Biswa Bharati Andhra University National Mental Institute, Kanki, Ranchi
Prof. P.K. Mahapatra	SACON, Coimbatore NEHU, Shilong Wildlife Institute of India, Dehradun Crocodile Bank Trust, Mammalapuram, Tamil Nadu
Dr. G Sahoo	IIT, Chennai Crocodile Bank Trust, Mammalapuram, Tamil Nadu
Dr. S.S Nishank	VIT University, Tamil Nadu
Name of the Faculty	Institute /University Visited Internationally
Dr. G. Sahoo	Uppsala University, Sweden

26. Faculty serving in
- a) National committees :02 Prof. P.K.Mahapatra School in Herpetology, Sponsored by DST Govt. of India
- Prof P. K. Mohanty Member of Executive council: Odisha Bignya Academy

- b) Editorial Boards: 04 Prof. P.K.Mohanty: Indian Journal of Biology, Journal of Zoological Society Orissa, Bignya Diganta
Prof. P. K. Mahapatra: Journal of Zoological Society Orissa
- c) Reviewer in Journals: 11 Prof. P. K. Mahapatra: British Journal of applied science and technology; American journal of experimental agriculture, International Journal of Zoology, British journal of medicine and medical research; Journal of homeopathy and Ayurvedic medicine; Journal of regenerative medicine; European journal of medicinal plants; International journal of biology and biological science; Journal of Biochemistry and Bioinformatics; Ecotoxicology and Environmental safety; Comparative Biochemistry & Physiology.
Dr S.S. Nishank: Journal Hemoglobin
- d) Member Board of Studies and Research committees: 06
Prof. P.K. Mohanty North Orissa University, Fakir Mohan University, Sambalpur University
Prof. P. K. Mahapatra, Fakir Mohan University, Sambalpur University, Ravenshaw University
27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). 03
- a) Orientation Programme: 01 Dr. G. Sahoo, JNU, New Delhi, 27 Sept. - 22 Oct, 2010
- b) Refresher course: 04
Prof. P.K.Mahapatra: on Geospatial technologies under natural resources data management system of DST, Government of India, P.G. Department of Zoology, Utkal University, Bhubaneswar, 10th to 30th December 2013.
Dr. G. Sahoo University of Hyderabad, 8-28 December, 2012, University of Agricultural Sciences, GKVK, Benhaluru,
Dr S.S Nishank Teaching skill development by ASC, Utkal University 20-25 March, 2015
- c) Summer Training Programme: 02
P.K.Mahapatra Summer Training Programme on Geospatial Technology & its Application, P.G. Department of Geology, Utkal University,
Sponsored by DST, Government of India, 8th to 28th May 2012
Dr. G. Sahoo Summer School on Writing Research Proposals from 21-30 May, 2012 at Madurai Kamraj University, Madurai
28. Student projects
Percentage of students who have done in-house projects including inter-departmental projects: 100%
Percentage of students doing projects in collaboration with other university industry / institute : Nil

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

Awards	Faculty 04	Doctoral/Post Doctoral	Students 09
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received						Fellow 02									
	2010 -11	201 1-12	201 2-13	2013 -14	2014 -15	201 0-11	201 1-12	2012 -13	201 3-14	2014 -15	201 0-11	2011 -12	2012 -13	2013 -14	201 4-15
National level	1	-	-	2		1	-	-	-	-		4	1		4
International level	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-

Faculty :

Prof. A. K. Patra : Sikshya Ratna Award, 210-11 By India international Friendship Society

Prof. P. K. Mohanty : Sukumar Sunanda Science Communication Award, 2013-14 By Odisha Bigyan Prachara Samiti

Prof. P. K. Mahapatra : Dr. Mahamaya Patnaik Smruti Samman in 2013-14 By Odisha Bigyan Prachara Samiti

Dr. G. Sahoo : Erasmus Mundus India To Europe Fellowship, 2014-15

Doctoral Fellow

Mrs. Cuckoo Mohapatra, Nehru Fullbright Fellowship in 2010-11

Mr. Biswa Ranjan Paital, Junior scientist of the Year in 2010-11 By National Env. Science Academy, New Delhi

Students :

2011-12 : AnujaTarini Mishra received National level senior scholarship from Ministry of Culture, Govt. of India for Odissi vocal training. She got 1st prize in National level Kamalnayan Bajaj Memorial Elocution competition and 1st in cultural competition at Wardha. 1st in state level debate competition organised by Dept. of Tourism, Govt. of Orissa, 1st prize in Shyam Sundar Mishra debate competition held at Utkal University.

Ms Rajlaxmi Mohanty, Ms Anita Sahoo and Ms Sadiya Iffatgot prizes in "Talent Ecstasy" organised by Common Times in Utkal University.

1012-13 : Miss Suchhanda Agasti was selected for "Science Academies' Summer Research Fellowship Programme-2013" by Indian Academy of Sciences, Bangalore.

2014-15 : Miss Debasmita Patra has secured three prizes namely 1st in story writing, 2nd in creative writing and 3rd in debate held from 22nd to 24th December, 2014 at Odisha Environment Congress – 2015, RMNH, Bhubaneswar

Miss Suchismita Behera , Miss Saumya Subhra Samantaray, and Miss Pooja Pattnaik have received 1st, 2nd and 3rd prize respectively in the essay competition on "Light and Life" on the occasion of International Year of Light 2015, celebrated by Bigyan Prachar Samiti, Bhubaneswar on 22nd February

30. Seminar/ Conferences/Workshops / Refresher Course organized and the source of funding (National / International) with details of outstanding participants, if any. 04
- a) National Seminar on Advances in Cell science, 2012 Sponsored By DST,

Govt. of India

- b) National Seminar on Alternatives to Animal Use, 2014 sponsored by DST, Govt. of India
- c) National Seminar, Global climate change, sea level rise, coastal pollution and its effects on capture and culture fishery and sustainable marine fisheries resources management, 9-10 March 2014
- d) UGC Sponsored Refresher Course in Life Science 22nd February to 14th March 2014.

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

As per UGC guidelines. Approval of duly constituted ethical committee of the University is taken before doing any research activities that involves use of animals/ Human. Issues related to data collection & use, authorship and plagiarism are taken care of.

32. Student profile Programme-wise:

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. 2010-11	462	7	25	100%	100%
M.Sc. 2011-12	411	10	22	100%	100%
M.Sc. 2012-13	563	7	25	100%	100%
M.Sc. 2013-14	627	10	22	100%	100%
M.Sc. 2014-15	704	6	26	100%	100%

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Phil. 2010	40	6	4	100%	100%
M.Phil. 2011	42	2	8	100%	100%
M.Phil. 2012	54	0	7	100%	100%
M.Phil. 2013	48	2	5	100%	100%
M.Phil. 2013-14	60	2	8	100%	100%
M.Phil. 2014-15	45	5	5	100%	100%

Name of the Programme (refer to question No.4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
Pre Ph D. 2011-12	20	4	9	100%	100%
Pre Ph D. 2012-13	26	0	10	100%	100%
Pre Ph D. 2013-14	64	7	11	100%	100%
Pre Ph D. 2014-15	55	3	10		

33. Diversity of students:

Name of the Programme (refer to question No.4)	% of students from the same university	% of students from other University within the State	% of students from universities outside the state	% of students from other countries
M.Sc.	42%	54%	4%	0%

M.Phil.	85%	15%	0	0
Ph.D Course Work	58%	42%	0	0

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

	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Civil Services	1	-	-	-	-	1
NET	4	1	3	2	4	14
GATE	2	-		1	3	6
State PSC	14	-	1	4	12	31
TIFR-RF	-	-	1	-	1	2
Agricultural Scientist Recruitment Board-NET	-	-	-	1	-	1
ICMR-NET	1	-	1	-	-	2
NBRC-RF	-	-	1	-	-	1
RGNF					1	1

35. Student progression

Student progression	Percentage against enrolled
PG to M. Phil	31.15
PG to PhD	23.73
Ph. D. to Post-Doctoral	10
Employed	
• Campus selection	0.3
• Other than campus selection	95
Entrepreneurs	4.7

36. Diversity of staff

	Percentage of faculty who are graduates of
The same university	66.8
From other universities within the state	33.2
From universities of 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

- Library: Total number of text and reference books: 3184
Library capacity: 32, 24 x7 days operation managed by students
e-journals available through INFLIBNET.
- Internet facilities for staff and students: Available to all (41 points)
- Total number of class room: 1
- Class rooms with ICT facility: 1
- Students' laboratories: 4
- Research laboratories: 3

39. List of doctoral, post-doctoral students and Research Associates of faculty who are graduates of

	Host institute (23)	Other institute (18)
Doctoral	Biswaranjan Paital Cuckoo Mahapatra Doli Karan Kalpana Kumari Mishra Kalpana Mohapatra Madhusmita Das Pallavi Mishra Priyadarshini Routray Shashwati Sahu Sunil Kumar Sahoo Smrutidhara Dash Swagatika Satapathy Swati patnaik Ananya Bhattacharjee Jutshina Hota Mini Philip Rajesh Kumar Mahapatra Jogamaya Behera Swati Sucharita Mohanty	Abhimanyu Mohanta Basanta Kumar Panda Bandana Khuntia Gokulananda Bhujabal Jyotshnarani Biswal Nikita Mahapatra Sunil Kumar Pradhan Srianga Kumar Tilak Yashaswi Nayak Amiyabala Satapathy Tanuja S Alaka Padhi Aryadhara Das Gayatri Acharya Pratheek BM Sitaram Swain Sujata Puspamitra
Research Associate	Santosh Sahoo (PG) Jyotirmayee Pradhan (PhD) Abhilipsa Das (PhD) Buli Kumari panigrahi (PhD)	Prassana K Dixit (PhD)

40. Number of post graduate students getting financial assistance from the university/ Government /Private agencies. Annexure III

PG Basic Science, Institute of Mathematics	: 52
UGC Rank Holder: 6	
Department of Higher Education, Govt of Odisha	: 25
Prerana	: 1
Posco	: 1
Pranakrushna Parija Memorial Scholarship	: 6
Hindustan Copper Ltd.	: 1

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.
 Yes, Suggestions of students and reference from the curriculum of other universities are taken in to account.

42. Does the department obtain feedback from?
- faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Yes, The suggestions are incorporated into the curriculum to the possible extent.
 - students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Key points are discussed in the Teachers' Council and suggestions of the students are taken into account.
 - alumni and employers on the programmes offered and how does the department utilize the feedback?
Students are regularly advised by alumni members on job prospects in the field.
43. List the distinguished alumni of the department (maximum 10)
- Prof. A. P. Das, Vice Chancellor, Central University of Tamil Nadu
 - Sri P. N. Padhi, (IFS), PCCF, Odisha
 - Prof. S. K. Dutta, International authority on World Herpeto fauna, Samanta Chandra Sekhar Awardee
 - Dr. S. Panda, (IFS) Director, Nandankanan Zoological Park, Bhubanewar
 - Dr. Srikant Rath, Pr. Scientist, CDRI, Lucknow
 - Prof. M. C. Dash, Former Chairman, Odisha State Pollution Control Board & Former Vice-Chancellor, Sambalpur University
 - Dr. Karthikeyan vasudevan, Sr. Principal Scientist, LaCONES, CCMB, Hyderabad
 - Mrs. Anuradha Vemuri, IFS, Director, Health Services, Govt. of India
 - Dr. S. Sahu, Pr. Scientist, Vimal, Himachal Pradesh
 - Dr. Parmananda Das, Pr. Scientist, CIFA
44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Category	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Special lecturers	12	4	8	11	6	41
Workshops	-	-	1	2	-	3
Seminars	-	1	2	-	-	3

Details of special lectures

Year	Guest speaker	Topic	Date
2010-11	Dr Surendra Ghaskadbi, Agharkar Research Institute, Pune	Pattern forming genes and stem cells in Hydra	03. 09. 2010
	Dr (Mrs) Namita Mohapatra,, Dy Director, RMRC, Bhubaneswar	Insect pests of medical and veterinary importance	06. 12. 2010
	Professor Niraj Kumar Tripathy,, Berhampur University	Epigenetics	01. 02. 2011
	Dr B. Dwibedi, RMRC, Bhubaneswar	Viral infections in Orissa	03. 02. 2011
	Prof. A. S. Kolaskar, Vice chancellor,	Bioinformatics: past	05. 02. 2011

	KIIT, Bhubaneswar	present and future	
	Prof. G. savithri, S.P. Womens' University Tirupati	Sericulture: A multidisciplinary Science	11. 02. 2011
	Prof. A. P. Dash, Regional Advisor, WHO/SEARO, New Delhi	Climbmate change impact on vector borne diseases	11. 03. 2011
	Prof. Sankar Prasad Bhunya, Former faculty, P.G. Department of Zoology, Utkal University	Alternative models in genotoxicity testing	16. 03. 2011
	Prof. Bidyut Kumar Das, Professor medicine, S. C. B. Medical college, Cuttack	Autoantibodies: From bench to bedside	07. 04. 2011
	Padmashree Prof. Priyambada Mohanty-Hejnadi, Former faculty, P.G. Department of Zoology, Utkal University	From Egg to Leg: A story of vitamin A	11. 04. 2011
	Dr Santanu Kumar Kar, Director, RMRC, Bhubaneswar	Lymphatic filariasis	13.4.2011
	Balaram Sahu, Registrar Orissa Veterinary Council, Bhubaneswar	Vaccine	16.4.2011
2011-12	Dr Palok Aich of NISER, Bhubaneswar on 22nd August, 2011.	Systems biology: A Modern Approach	22.8.2011
	Dr K.C. Majumdar Ex-scientist, Centre for Cell and Molecular Biology	Transgenesis	18. 10. 2011
	Dr Pratyush Mahapatra, Reptilian specialist, Lecturer, Govt. Science College, Chhatrapur, Ganjam	Animal Taxonomy with special reference to Amphibian and Reptiles of India	05. 11. 2011
	Prof. Aditya Prasad Dash, Scientist, WHO/SEARO	Climate change and vector borne diseases	11. 02. 2012
2012-13	Prof. Premendu P. Mathur, Vice Chancellor, KIIT University, Bhubaneswar	Emerging role of Biology in today's era	23.08.2012
	Prof. Sudip Barat, Department of Zoology, North Bengal University	Integrated fish farming and Limnology	31.08.2012
	Dr B.C. Mahapatra, Senior Scientist, CIFA, Bhubaneswar	Application of Plastics in aquaculture	04.09.2012
	Prof. Miss Amita Moitra, University Department of Zoology, TM Bhagalpur University, Bihar	Application of Modern Techniques and Tools for the study of Angioarchitecture	13.09.2012
	Dr B.N. Sarkar, Anthropological Survey of India, Kolkata	Multidisciplinary Research in Human Genetics: Experiences and possibilities	05.11.2012
	Dr Bivash Pandav , Scientist-E, Wildlife Institute of India, Dehra Dun	An overview of India's Wilderness	07.11.2012
	Dr P. Jayasankar, Director of CIFA, Kausalyaganga, Bhubaneswar	Alien species:their potential implications in	21.01.2013

		Freshwater Fisheries and Aquaculture	
	Prof. Dhrubaraj Naik, Former Professor Department of Zoology, Utkal University and Former Vice Chancellor Sambalpur University	Pituitary gland of various animals and mechanism of hormone action	02.03.2013 and 04.03.2013
2013-14	Prof. Mahendra Prasad, Department of Zoology, Ranchi University, Ranchi	Biodiversity : A Function of Species Richness and Species Diversity	27.07.2013
	Prof. Pradeep Kumar Chand, PG Department of Botany, Utkal University, Bhubaneswar	Genetically Modified Root Cultures for Healthcare	06.08.2013
	Prof. Chapal Kumar Das, Material Science Department, IIT, Kharagpur	Present Activities in Material Science Centre, IIT, Kharagpur	08.08.2013
	Dr Ranjana Jaiswara, Centre for Ecological Sciences, IISC, Bangalore	Systematics and Evolution of Acoustic Communication in Field Crickets	17.08.2013
	Prof. CR Sahoo, University of Kalyani, West Bengal	Axis in Vertebrates	30.09.2013
	Swami Bhakti Niskama Santa, IIT, Kharagpur	Sorry Darwin: Chemistry Never Made the Transition to Biology	19.11.2013
	Swami Bhakti Vijnana Muni, IIT, Kharagpur	Information, Knowledge and Life in 21st Century	19.11.2013
	Dr Ashok Kumar Mahapatra, Director, AIIMS, Bhubaneswar	Head Injury : Clinical Aspects and Prevention	15.01.2014
	Dr Fabricia Cesca, Italian Institute of Technology, Italy	The Basic Principles of Neurobiology	20.01.2014
	Prof. Rabindra Nath Chatterjee, Calcutta University, Kolkata	Genome Analysis in Eukaryotes	10.02.2014
2014-15	BK Sister Leena, Director, Brahma Kumaris, Bhubaneswar	Role of Spirituality in Students' life	27.3.2014
	Dr Sajal Bhattacharya, Associate Professor, Asutosh College, Kolkata	Globalization of a vector exploring the threats with special reference to dengue	12.06.2014
	Dr Abhimanyu Mohanta, Lecturer, Biju Pattnaik College, Singda, Mayurbhanj, Odisha	Human Oral Cancer	15.06.2014
	Professor Panchanan Nath, Professor, Department of Zoology, Santiniketan, Viswa- Bharati, West Bengal	Vitellogenesis of Fish	16.06.2014
	Dr Aparna Choudhary, CIFE, Mumbai	CIFE and the scientific activities	12.01.2015
	Dr Joykrishna Jena, Director, NBFGR,	National Bureau of fish	12.01.2015

	Lucknow	genetic research and their activities.	
	Professor Sudip Chattopdhay, Head of the Department of Biotechnology, NIT, Durgapur	Light Signal transduction pathway in plants	14.02.2015

45. List the teaching methods adopted by the faculty for different programmes. Black board, audio-visual aids, internet facility, ICT facility, Project work supervised by faculty members
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
Discussion with students, Seminars, Periodic tests, Surprise tests, Quizzes, Debates, Essay competitions, Field visits, Mid-Semester examinations, Evaluation of success rate of students in different competitive examinations
47. Highlight the participation of students and faculty in extension activities:
Snake help line- Dr. S.P. Parida and Dr. P.P. Mahapatra
Science communication for common people (Bigyan Prachar Samiti every 3rd Sunday of each month)
Inspire programme
Utkal University Zoological Alumni Association felicitation to meritorious students.
Celebration of different occasions.
48. Give details of “beyond syllabus scholarly activities” of the department.
Seminar presentation by each and every student, Essay and Debate competitions, Face the interview board, Study tours, Field visits, Visit to different National Laboratories, Participation in National Seminar/ Symposia/Workshops.
49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.
Yes, UGC and DST (PURSE) evaluated the programme
50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.
First homeotic transformation in vertebrates (published in NATURE)
Monograph on tasar sericulture (published by Utkal University, funded by FORD FOUNDATION)
Baseline data generation on blood cell profile of vertebrates
Atypias of human oral cancer cells
Effect of food additives on chromosomes of insects
Recycling of fish wastes
51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Sl. No.	Strength	Weakness	Opportunity	Challenges
1	High demand for the course	Lack of infrastructure	Scope for collaboration with local institutions	Enhanced state funding for research

2	Baseline data creation on hematology of vertebrates	Lack of high-end equipments	Publication of research manuals by faculty members	Quality of research output
3	Seminar Library 24 hrs open and completely managed by students	Lack of research labs, Seminar halls, Class rooms	Inter/multidisciplinary research collaboration	Employability of students
4	Completely ICT enabled class room	Dearth of faculties	Inclusive and regular social outreach programmes	Participation in International student/faculty exchange programmes
5	Program for Special care & up-gradation of weaker students	Limited access to Science Journals	Publication of standard books in the subject	Regular update of faculty profile

52. Future plans of the department.

- i. In vivo and in vitro cytotoxic analysis of mutagens on different animal models
- ii. Study on molecular pathogenesis of vertebrate parasites
- iii. Study of hereditary hematological disorders of human
- iv. Development of a data base on haematology of vertebrates.
- v. Barcoding of faunal diversity of Odisha.
- vi. Effect of climatic change on breeding population of sea turtles of Odisha coast.
- vii. Bar coding of faunal diversity of Odisha
- viii. Regeneration studies on anuran tadpoles
- ix. Coaching for NET aspirants.

ANNEXURE - 1

LIST OF PUBLICATIONS OF THE DEPARTMENT

2015

1. Performance analysis of the duckweed (*Lemna minor*) in the bio remediation of sewage water. Patra AK Int. J. of Current Res., vol.7(1):11235-11239, 2015.
2. Feeding and nesting ecology of Indian giant squirrel *Ratufa indica* in Kuldiha wildlife sanctuary, Balasore, Odisha, India and its conservation, Nayak BK and Patra AK, Int. J Bioassay 4(3):3741-3746, 2015.
3. Studies on primary productivity of bay of Bengal at Chandrabhaga sea-shore, Konark, Odisha . Sahoo A Patra AK, Int J Scit. Res. Pub. 5(2):1-5, 2015.
4. Morphological features and influence of age and breed on the morphometry of red blood cells of female cattle. Dash, I. and Mohanty, P.K. , *Int. J. Sci. and Res.*, 4(2) Feb.: 259-264, 2015.
5. Morphometrical analysis of blood cells of yellow bellied house gecko *Hemidactylus flaviviridis* Ruppell, 1835 with sexual dimorphism. Nayak, S. and Mohanty, P.K. *Int. J. Sci. and Res. (IJSR)*, 4(3) March: 1818-1821, 2015.
6. A study on diversity of serpent fauna in Sanghagara forest ecosystem, Keonjhar, Odisha. Nayak, S., Mishra, S., and Mohanty, P.K. *Biospectra* 10(1): 127-134 (March Special Issue), 2015.
7. Human elephant interface and its management in Odisha. Mohanty, P.K. and Khuntia, B. *Biospectra* 10(1): 75-78 (March Special Issue), 2015.
8. Cytomorphometric analysis of keratinized round cells in human oral carcinoma. Mohanta, A., Mohanty, P.K. and Parida, G. *J. Cytol.* 32: 107-112, 2015.
9. Keratinized strap cells: a rare cytological atypia resembles Anitschkow cells in human oral neoplasm. Mohanta, A., Mohanty, P.K. and Parida, G. *Int. J. Clin. Oncol.* 2015.
10. Comparative haematochemical studies on *Cirrhinus mrigala* and *Cirrhinus reba* Acharya Gayatri and Mohanty P K, *Ind. J. Biol* 2(1): 19-22, 2015.
11. Effect of vitamin A o n acid and alkaline phosphatase activities during tail regeneration in the tadpoles of the Asian toad. Mohapatra Nikita, Dutta S K, Mohanty P K and Mahapatra P K, *Int. J. Adv. Rec. Bid. Sci.*, 2(4) : 219-226, 2015.
12. Blood cell profile of the Indian Tree Frog *Polypedates maculatus* (Gray, 1830), during larval development until metamorphosis (anura: rhacophoridae), Das M. and Mahapatra PK. *Herpetozoa* 27(3/4):123-135, 2015.
13. Correlation of various clinic pathological parameters with estrogen receptors and progesterone receptor status in malignant breast lesions. Mohanty SS, Mohanty PK et al., *Ind. J. Biol.* 2(1):67-71, 2015.

14. Association of DNA Damage Repair Gene Polymorphisms *hOGG1*, *XRCC1* and *p53* with Sickle Cell Disease Patients in India. Nishank SS. (2015) *Mediterr J Hematol Infect Dis.* 2;7(1):e2015046. eCollection, 2015.

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15. Antibacterial activity of freshwater microalgae: a review. Pradhan J, Das S, Das BK. *African J of Pharmacy and Pharmacology*, 8(32): 809-818, 2014.
16. Shelf life study of acid added silage produced from fresh water fish dressing waste with and without the addition of antioxidants. Tanuja S.; Mohanty, P.K.; Kumar Anil; Maharana, A. and Nayak, S.K. *Int. J. Agric. & Food Sci. Technol.*, 5(2): 91-98, 2014.
17. DNA sequence analysis of *gyrA* provides a rapid and specific assay to Identify *Arcobacter butzleri* isolates from the environment. Nayak, A.K., Wilson, D.L., Linz, J., Rose, J.B., Mohanty, P.K. and Das, B.K. *Int.J.Curr.Microbiol.App.Sci.*, 3(4): 512-529 2014.
18. Mammalian non-classical major hostocompatibility complex I and its receptors: Important contexts of gene, evolution and immunity. Pratheek, B.M., Nayak, T.K., Sahoo, S.S., Mohanty, P.K., Chottopadhyay, S., Chakraborty, N.G. and Chottopadhyay, S. *Indian J Hum Genet*, 20(2): 129-141, 2014.
19. Haematological analysis of Japaneses quail (*Coturnix coturnix japonica*) at different stages of growth. Puspamitra, S., Mohanty, P.K. and Mallik, B.K. *Int. Res. J. Biological Sci.*, 3(11): 51-53, 2014.
20. Heamatological and serum biochemical parameters in different sexes of walking cat fish, *Clarius batrachus* (Linaneus, 1758). Acharya, G. and Mohanty, P.K. *Int. J. Sci. Res. (IJSR)*, 3(8): 1914-1917, 2014.
21. The morphometrical characterization of normal blood cells of two air breathing fishes, *Clarius batrachus* and *Anabas testudineus*. Acharya., G. and Mohanty, P.K. *Int. Res. J. Biological Sci.* 3(11): 37-41, 2014.
22. Valorization of fish processing waste through natural fermentation with nulasses for preparation of biofertilizer and biosupplement . Sahu, B.B., Barik, N.K., Mohapatra, B.C., Sahu, B.N., Sahu, H., Sahoo, P., Majhi, D., Biswal, N.C., Mohanty, P.K. and Jayasankar, P. . *J. Env. Sc. Comp. Sc. And Eng. Tech.* Sec. A, 3(3): 1849-1856, 2014.
23. Different cytomorphometric analysis of keratinized fiber cells in human oral carcinoma. Mohanta, A., Mohanty, P.K. and Parida, G. *IOSR. Journal of Dental and Medical Sciences*, 13 (12): 48-57, 2014.
24. A study on diversity of avifauna in Sanghagara forest, Keonjhar, Odisha. Nayak, S.B., Mishra, S. and Mohanty, P.K. *Indian Journal of Biology*, 1(2) July-December: 77-84, 2014.

25. Comparative hematology of various breeds of chicken (*Gallus gallus domesticus*). Bhattacharjee, A., Mohanty P.K. and Mallik B.K. *Indian journal of Biology*. 1(2) July-December: 47-52, 2014.
26. Morphometrical analysis of blood cells of Japanese quail (*Corturnix japonica*) in two different age groups. Bhattacharjee, A., Mohanty, P.K. and Mallik, B.K. *Int. Res. J. Biological Sci.*, 3(9) September: 1-4, 2014.
27. Hematology of Wild Caught Dubois's Tree Frog Polypedates teraiensis, Dubois, 1986 (Anura: Rhacophoridae). Das M. and Mahapatra PK. *The Scientific World Journal*, <http://dx.doi.org/10.1155/2014/491415>, 2014.
28. Age estimation of a breeding population of olive ridley turtles (*Lepidochelys olivacea*) along the Odisha Coast, eastern India using skeletochronology. Wildlife Institute of India, Dehradun, India. Kumar, R. S., Baburam, A., Pandav, B. and Mahapatra, P. K., 2014.
29. Haematological analysis of three species of captive cervids of Nandankanan Zoological Park, Odisha. Bhujabal, G.N., Mohanty, P.K. and Panda, S. *Indian Zoo Year Book*, New Delhi, pp 134-139, 2014.
30. Observation on the conditional factor and allometry of female Indian major carp, *Labeo rohita* (Hamilton), Das S, Patra AK and Sar UK. *Int. J of Current Research*. 6(7) 7343-7347, 2014.
31. Primary productivity of bay of Bengal at Paradeep in odisha, India Mohanty R and Patra AK, *Int. J of Current Research*. 6(8) 10807-10809, 2014.
32. Studies on water quality index of bay of Bengal at Digha, West Bengal, India, Moharana P and Patra AK. *Indian J Science research* 5(1):71-76, 2014.
33. Physico-chemical characteristics of ground water in and around the Gandhamardan iron ore mining area, Koenjhar district, Odisha, India, Pradhan K, patra AK, Sahu UC and panda SH. *Res. J Chem. Sciences* 4(11): 62-67, 2014.
34. Lunar rhythm in the planktonic biomass of bay of Bengal at Digha on –sea (W.B.) Moharana P and Patra AK. *Ind. J. Life Science* 3(2):81-86, 2014.
35. Growth response of common carp (*Cyprinus carpio*) to different field ingredients incorporate diets. Mohapatra SB and Patra AK. *Adv in applied science research* 5(1): 169-173, 2014.
36. Aetio-Pathology of oral mucosal cells during carcinogenesis. Mohanta, A., Mohanty, P.K. and Parida, G. *Pranikee*, 26:44-64, 2014.

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37. *Anopheles subpictus* B and its role in transmission of malaria in Odisha, India, Kumari S, Das S, Mahapatra N. , *Tropical Biomedicine*, 30(4): 710-717, 2013.
38. Observation on primary production of river Mahanadi on seasonal basis in Cuttack District, Odisha. Panigrahi S and Patra AK. *The Ecoscan*, 7(1&2): 67-72, 2013.

39. Spatial distribution and seasonal abundance of plankton population of Bay of Bengal at Digba sea shore in West Bengal. Maharana P and Patra AK. Indian J of Science Research, 4(2):93-9, 2013.
40. Studies on the sexual variation in allometric condition of Indian major carp, *Labeo rohita* (Hamilton) Das S and Patra AK. Indian J of Science Research, 3(1): 75-78, 2013.
41. Studies on seasonal variation in phytoplankton diversity of river Mahanadi, Cuttack city, Odisha, India. Panigrahi S and Patra AK. Indian J of Science Research, 4(2): 221-217, 2013.
42. Behavioural study on leopard (*Panthera pardus*) in Nandankana Zoological Park, Bhubaneswar, Odisha, Sethy U and Patra AK. India. Int. J. of Bioassay 02(12):1612-1215, 2013.
43. Primary production in river Birupa, India, Sukal S, Patra AK and Panda RP. Proc. Natl. Acad. Science India Sec. B. Biol. Sc. DOI 10.1007/s40011-013-0165-y, 2013.
44. Man elephant conflict in Keonjhar district of Odisha: A Study Khuntia, B. and Mohanty, P.K. *Odisha Review* 70(182). Aug. – Sept.: 113-118, 2013.
45. Haematological analysis of two Carnivores of Nandankanan Zoological Park of Odisha. Bhujabal, G.N. Mohanty, P.K. and Panda S. (*Indian Zoo Year Book*, vol. VII, pp 47-54, 2013.
46. Comparative Karyomorphometrical analysis of two commercial giant prawns of Odisha. Satapathy, S. and Mohanty, P.K. *Pranikee, Journal of Zoological Society of Orissa* (ISSN 0970-4450), 25: 59-65, 2013.
47. Biochemical, Microbiological and nutritional quality characterization of acid silage produce from carp waste with and without addition of antioxidants. Tanuja S.; Mohanty, P.K.; Kumar Anil; Maharana, A. and Nayak, S.K. *Pranikee*, 25: 76-88, 2013.
48. Blood cell profile of the developing tadpoles and adults of the ornate frog, *Microhyla ornata* (Anura: Microhylidae). Hota J, Das M and Mahapatra PK. *International Journal of Zoology*, <http://dx.doi.org/10.1155/2013/716183>, 2013.
49. Effects of phytohormone kinetin on growth of the silk glands and economic parameters of Eri silkworm (*Samia cynthia ricini* BOISD). Pattanaik S, Bohidar K and Mahapatra PK. *E-planet*, ISSN 0974-4398 11(1): 24-30, 2013.
50. Age determination by skeletochronology in the Indian bull frog *Hoplobatrachus tigerinus* Daudin, 1802 (anura: ranidae). Das M, Nayak S, Dutta SK and Mahapatra PK. *Pranikee* (Journal of Zoological Society Orissa, ISSN 0970-4450), 25: 66-75, 2013.
51. Endothelial nitric oxide synthase (eNOS) gene polymorphism is associated with age onset of menarche in sickle cell disease females of India. Nishank S.S. *Medit. J of Hematol. & Infect. Dis.* 5(1):1-5, 2013.

52. Clinical impact of factor V leiden, prothrombin G20210A and MTHFR C677T mutations among sickle cell disease patient of Central India. Nishank SS, Singh MPSS, Yadav R. *European J of Haematology* doi: 10.1111/ejh.12190, 2013.
53. Genotoxicity effect of tobacco and alcohol on human oral mucosal cells. Mohanta A, Mohanty PK and Parida G. *Euro.J. Exp. Biol.* 3(2):503-504, 2013.
54. Endothelial nitric oxide synthase gene polymorphism is associated with sickle cell disease patients in India. Nishank SS, Singh MP, Yadav R, Gupta RB, Gadge VS, Gwal A. *J Hum Genet.* 2013 Dec; 58(12):775-9. doi: 10.1038/jhg.2013.99, 2013.

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55. Status of noise near Bargarh Cement Factory, Odisha. Sarangi B, Tripathy PC and Patra AK. *Environment and Ecology*, 30(4):1248-1251, 2012.
56. Ethnobotanical studies of wild flora at G. Udayagiri forest in eastern ghat, Odisha. Shadangi AK, Panda RP and Patra AK *IOSR-j of environ. Sc., Toxic. & Food Sc.* 2(2): 25-37, 2012.
57. Environmental impact assessment on the ecological aspects and socioeconomic status of fishermen community at Puri sea beach (Bay of Bengal) in Orissa. Sahoo A and Patra AK *Int. J of Biology, pharmacy and allied science* 1(8):1117-1134, 2012.
58. Biochemical studies of muscle and liver of *Labeo rohita* (Ham.) in relation to season and sex. Pradhan SC, Patra AK Mohanty KC *Int. J of current research* 4(12):228-234, 2012.
59. Spatial and temporal planktonic analysis of river Kharasorta, Orissa Dash S, Patra AK and Adhikari S *Indian J. Environmental protection* 32(5) 415-423, 2012.
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61. Hematological and plasma biochemistry of *Cirrhinus mrigala* (Hamilton 1822). Pradhan SC, Patra AK, Mohanty KC and Pal A *Comp. Clin. Pathol.* DOI 10.1007/s00580-012-1642-z, 2012.
62. Genotoxic effect of apple green colour additive on green cells of short horned grasshopper *Poecilocus pictus* f. (Insecta: Orthoptera: Acrididae). Satpathy, A. and Mohanty PK *The Bioscan*, 7(4): 677-680, 2012.
63. Preliminary study on susceptibility states of *Anopheles minimus* Theobald and *An. Fluviatilis* James (Diptera: Culicidae) to DDT and Deltamethrin in Keonjhar district of Odisha, India. Das, S.; Panda, B.K.; Sahu, S.S. and Mohanty, P.K. *The Journal of Communicable Diseases*, 44(1): 25-28, 2012.
64. Immunohistochemical localization of Cathepsin D and a possible role of melanocytes during tail resorption in tadpoles of a tropical toad. Mahapatra C. and

Mahapatra PK. *Journal of Morphology*, 273:791–800, DOI: 10.1002/jmor.20027,2012.

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66. Hematology of Indian rhacophorid tree frog *Polypedates maculatus* Gray, 1833 (Anura: Rhacophoridae) Mahapatra BB, Das M, Dutta SK and Mahapatra PK. *Comparative Clinical Pathology*, 21:453-460, DOI 10. 1007 /s00580-010-1118-y),2012.
67. Role of acid and alkaline phosphatase during vitamin A induced abnormal tail regeneration in the tadpoles of the Indian tree frog. Patnaik N, Mahapatra C, Dutta SK and Mahapatra PK *International Journal of current research*, 4(11):115-120,2012.
68. Blood cell profiles of the tadpoles of the Dubois's tree frog, *Polypedates teraiensis*, Dubois, 1986 (Anura: Rhacophoridae). Das M. and Mahapatra PK. *The Scientific World Journal*, DOI:10.1100/2012/701746,2012.

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Books : 06			
Year	Name of the Book and Authors	Publisher	ISBN Number
2010-11	1. Aranya hi Saranya Prof. P.K. Mohanty	Shakti Publishers, Cuttack	978-81-88337-96-5
	2. +2 Practical Zoology Prof. P.K. Mohanty	New Age Books, Cuttack	978-81-8356-650-6
	3. Human Twins Prof. P.K. Mohanty	Discovery Publishing House, New Delhi	
2011-12	4. Pradusana Bisphorana Prof. P.K. Mohanty	Binod Behari Cuttack, Sangeeta Printers, Cuttack	-
2012-13	5. Role of Lysosomal Enzymes in Anuran Tail Regeneration	Scholars' Press AV Akademikervlag, GmbH & Co, KG, Germany	978-3-639-51555-6
	6. Dr Cuckoo Mahapatra and Prof. P.K. Mahapatra		
2014-15	7. Jibajagata Amara Mita Prof. P.K. Mohanty	Basanta Publications, Cuttack	-

Annexure II

Fellowship received by Students during the period from 2010 to 2015

Scholarship	2010-11	2011-12	2012-13	2013-14	2014-15
DST-INSPIRE Fellowship				1 (Gayatri Acharya)	Ms. Ananya Ashabary
CSIR-UGC-NET	4 (Ms. Priyadarshini Routray, Tapas Kumar Nayak, Laxman Kumar Murmu, Hemantika Dasgupta)	1(Mr. Sabindra Kumar Samal)	3 (Mr. Rajabala Tripathy, Mr.Ashish Kumar Pradhan, Mr. Biswa Ranjan Sahoo)	2 (Ms. Prajna Nayak, Ms. Rojali Seth)	4(-Ms. Debasmita Patra - Mr. Anurag Das, Ms. Suchanda Agasti, Ms. Sushreesangita Priyadarshini Behera)
ICMR-NET	1 Sunil Rathore		1 (Mr. Ashish Kumar Pradhan)		
TIFR-RF			1 (Mr. Ashish Kumar Pradhan)		1 Ms. Rojali Seth
NBRC-RF			1 (Mr. Biswa Ranjan Sahoo)		
RGNF for SC-ST					1 (Ms. Sujata Puspamitra)
GATE	2 (Ashish Kumar Pradhan, Sandip Kumar Rath)			1 (Ms. Rakhee Nayak)	3 (Ms. Minurani Dalai, Ms. Padmini Bisoyi, Ms. Saumya Subhra Samantaray)
UGC-BSR Fellowship			1 (Ms. Ananya Bhattacharjee)	3 (Ms. Nikita Mahapatra, Ms. Swatisucharita Mohanty, Ms. Mini Philip)	
Fulbright-Nehru Scholarship	Ms.Cuckoo Mahapatra				
UPSC Intelligence Officer	Subhalaxmi Kar				

Annexure III

Fellowship received by Students during the period from 2010 to 2015

Scholarship	2010-11	2011-12	2012-13	2013-14	2014-15
PG Basic Science (Institute of Mathematics)	6 (Jitendra Muduli, Ms. Swetashree Purohit, Ms. Banita Patra, Mr. Jagannath Panda, Mr. Sarbeswar Nayak, Rajalaxmi Mohanty)	11 (Mr. Anurag Das, Ms. Dibyadarsini Sahoo, Ms. Suvarna Pattanaik, Ms. Suchitra Mallick, Ms. Subhashree Sahoo, Mr. Sairam Satpathy, Ms. Ipsita Dash, Mr. Himanshu Sandibigraha, Ms. Sadiya Iffat, Ms. Suryasikha Samal, Mr. Tanmaya Sahoo)	15 (Ms. Rojali Seth, Mr. Debasish Mohapatra, Ms. Deepa Gupta, Ms. Bhagyashree Panda, Ms. Diana Pradhan, Ms. Prajna Nayak, Ms. Subhashree Sangita Priyadarshini Behera, Ms. Debashree Bal, Mr. Sudhansu Sekhar Panda, Ms. Bijeta Roynath, Ms. Diptimayee Acharya, Ms. Monalisha Panda, Ms. Monika Senapati, Ms. Succhanda Agasti, Ms. Puspita Behera)		20 (M.Sc Sem-IV-Ms. Suchismita Behera, Ms. Pooja pattnaik, Ms. Padminin Bisoyi, Ms. Saumya Subhra Samantaray, Ms. Shail Kumari Jha, Mr. Milan Kumar Panda, Mr. Ram Prasad Sahu, Ms. Manika Das, Mr. Ranjan Sahu, Mr. Ratnakar Behera, Mr. Pranay Kumar Sahu, Ms. Debasmita Patra, Mr. Ozel Pattnaik, Ms. Asha Priyadarshini, Mr. Pratyush Ranjan Sahoo, Ms. Binita Behera, Ms. Swapnaprabha Pany, Ms. Lipsa Mohanty, Mr. Ardhendu Sekhar Mallick, Ms. Sili Sahoo) 15 (M.Sc. Sem-II- Ms Anindita Sahani, Ms. Kiranbala Behera, Mr. Debasish Mohanty, Ms. Neha Gupta,

					Ms. Divya Pragyan, Ms. Swati Mishra, Mr. Baibhab Nayak, Ms. Lopamudra Jena, Ms. Debashree Debasmita, Ms. Diptimayee Rath, Ms. Nirta Chandak, Ms. Barsha Pattanaik, Ms. Psita Sarangi, Ms. Sushree Puruseth, Mr. Madan Mohan Swain)
PG Merit Scholarship (UGC)			3 (Ms. Rojali Seth, Ms. Sushreesangita Priyadarshini Behera, Mr. Nihar Ranjan)	3 (Ms. Debasmita Patra, Ms. Pooja pattanaik, Mr. Pratyush Ranjan Sahoo)	
PG Merit Scholarship DHE, Orissa		5 (Mr. Laxminandan Satpathy, Mr. Sunil Kumar Panda, Ms. Swadhina Padhiary, Ms. Suryasikha Samal, Ms. Sadiya Iffat)		15 (Ms. Abhipsa Shatarupa, Ms. Bhagyashree Panda, Ms. Bijeta Roynath, Ms. Binapani Hembram, Ms. Debashree Bal, Deepa Gupta, Diptimayee Acharya, Jayashree Panda, Manisha Panda, Minurani Dalai, Monalisha Panda, Monika Senapati, Manisha Panda, Minurani Dalai, Monalisa Panda, Monika Snapati, Suchhanda Agasti, Sudhansu Sekhar Panda, Sushreesangita Behera)	5 (Ms.Nirta Chandak, Ms. Barsharani Senapati, Ms. Sushri Sangita Pati, Ms. Binita Murmu, Ms. Jashoda Murmu)
Dr. Prana		1 (Ms.	2 (Ms. Diana	Ms. Puja	2 Ms. Barsha

Krushna Parija Scholarship		Dibyadarsini Sahoo)	Pradhan, Ms. Prajna Nayak)	Pattanaik	Pattnaik, Ms. Debashree Debasmita
POSCO Scholarship					Ms. Neha Gupta
DST-INSPIRE Fellowship					Ms. Ananya Ashabary
PRERANA					Ms. Ejlin Bara
Hindustan Copper Ltd.					Ms. Prerana Mordina

ABBREVIATION

AIU – Association of Indian Universities

CBCS – Choice Based Credit System

CMGI- Centre For Modernizing Government Initiative

D.Sc.- Doctor of Science

DBT-Department of Biotechnology

DSA – Department of Special Assistance

DST- Department of Science & Technology

FIST – Fund for Improvement of Science and Technology Infrastructure.

GATE – Graaduate Apptitute Test in Engineering

GIS - Geographical Information System

IGCP--International Geological Correlation Programme

IMMT – Institute of Minerals and Material Technology.

INSPIRE - Innovation in Science Pursuit for Inspired Research

ISM- *Indian School of Mines*

NMPB - National Medical Plants Board

NRPPD- *National Research Programme on Plantation Development*

NSDC - National Skill Development Corporation

NUSSD - National University Student Skill Development

ORSAC – Odisha Space Application Center

OUAT- Orissa University of Agriculture and Technology

UDPS – University Department for Pharmaceutical Science.



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