

Evaluative Report of the Department of Chemistry

1. Name of the Department – Chemistry
2. Year of Establishment – 1960
3. Is the Department part of the faculty of the university? – Yes
4. Names of Program offered (UG, PG, M.Phil, Ph.D. Integrated Masters, Integrated Ph.D. D.Sc. D.Lit. etc) – M.Sc., M.Phil, Ph.D. D.Sc.
5. Interdisciplinary programmes and departments involved – None
6. Courses in collaboration with other universities, industries, foreign, institutions, etc. – None
7. Details of programme discontinued, if any, with reasons – None
8. Examination System – Semester
9. Participation of the department in the courses offered by other departments – Yes
10. No. of teaching posts sanctioned, filled and actual.

	Sanctioned	Filled	Actual (CAS & MPS)
Professor	3	0	2 CAS 2 MPS
Associate Professor	8	0	1 MPS
Asst. Professor	3	1	1
Others	2		2

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

Name	Qualification	Designation	Specialization	No. of of Experience	No. of Ph.D.	No. of M.Phil.	No. of D.Sc
Prof Sanjoy Misra	M.Sc, Ph.D.	Professor	Inorganic and Environmental Chemistry	37	1	0	1

Prof (Dr). Raj Ranjan Jha	M.Sc, Ph.D.	Professor	Inorganic Chemistry	35	3	0	0
Prof (Dr). Rajesh Kumar	M.Sc, Ph.D.	Professor	Inorganic Chemistry	35	3	0	0
Prof (Dr). Mahmood Alam	M.Sc, Ph.D.	Professor	Organic	37	2	0	0
Dr. Hari Om Pandey	M.Sc, Ph.D.	Assoc. Professor	Organic	35	10	0	0
Dr. Sudhanshu Shekhar Singh	M.Sc, M.Ed, PhD.	Assoc. Professor	Physical Chemistry	21	0	0	0

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

13. Percentage of classes taken by temporary faculty

– 33% classes on contract basis in M.Sc

14. Programme-wise student Teacher Ratio.

Course	Student	Teacher
M.Sc.	18	1
M.Phil.	4.6	1
Ph.D.	1	1
Other	1	1

15. No. of Academic support staff & administrative staff.

Non Teaching Staff	Sanctioned	Filled	Actual
Support Staff (Technical)	5 Class III Staff	3	3
Administrative Staff	13 Class IV Staff	6	6

16. Research thrust areas as recognized by major funding agencies

No thrust area has been recognized by major funding agencies.

17. Number of faculty with ongoing projects from (a) National (b) International funding agencies & (c) Total grant received. Give the name of funding agencies, project title & grants received project wise.

(a) No. of Faculty with Ongoing Projects

Funded by National Funding Agency – None

(b) No. of Faculty with Ongoing Projects

Funded by International Funding Agency – None

(c) Name of the Projects – None

(d) Total Grants Received – None

(e) Name of the Funding Agency – None

- 18. Inter-institutional collaborative projects & associated grants received**
- (a) National Inter-Institutional Collaborative Projects – None
- (b) National Inter-Institutional Collaborative Project's Grants Received – None
- (c) International Inter-Institutional Collaborative Projects – None
- (d) International Inter-Institutional Collaborative Project's Grants Received – None
- 19. Department projects funded by DST-FIST, UGC-SAP/CAS, DPE, DBT, ICSSR, AICTE, etc; total grants received**
- (a) Departments Project Funded by – None
- (b) Total Grants Received – None
- 20. Research facility center with**
- (a) Research Facility with State Recognition – None
- (b) Research Facility with National Recognition – None
- (c) Research Facility with International Recognition – None
- 21. Special research laboratories sponsored by/created by industry or corporate bodies – None**
- 22. Publications**

Name	No. of Papers: National	No. of Papers: International	Mono-graphs	Chapters in Books	Edited Books	Books	Awards
Prof. Sanjoy Misra	4	38	0	0	0	1	0
Prof. Raj Ranjan Jha		15	0	0	0	0	0
Prof. Mahmood Alam	15	4	0	0	0	0	0
Dr. Hari Om Pandey	15		0	0	0	0	0
Prof. Rajesh Kumar	1	7	0	0	0	0	0
Dr. Sudhanshu Shekhar Singh	2		0	0	0	0	0

Name	No. listed in International Database	Citation Index	SNIP	SJR	Impact Factor	h-index
Prof Sanjoy Misra	None	3	None	None	2-3	1

For the rest these data are not available

23. Details of patents and income generated – None

24. Areas of consultancy and income generated – None

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

26. Faculty serving in

(a) National committees

Prof Sanjoy Misra	1. Executive member Indian Chemical Society, Kolkatta 2. Executive member Indian Council of Chemistry Agra
Prof (Dr.) Raj Ranjan Jha	Zonal Secretary Indian Council of Chemists

(b) International committees – None

(c) Editorial Boards

Prof Sanjoy Misra	Member Editorial Board, Ranchi University Journal of Science & Technology
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(d) any other (please specify)

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

Name	No. of Orientation/ Refresher Courses Attended in the Last 4 Years	No. of Lectures Delivered as Resource Person in ASC/Any other Institution in the Last 4 Years
Prof Sanjoy Misra	0	12
Prof (Dr). Mahmood Alam	0	4
Dr. Hari Om Pandey	0	5
Prof (Dr). Raj Ranjan Jha	0	5
Prof (Dr). Rajesh Kumar	0	4
Dr. Sudhanshu Shekhar Singh	1	0

28. Student Projects

(a) Percentage of students who have done in-house projects including inter departmental projects – None

(b) Percentage of students doing projects in collaboration with other universities/ industries/institute – None

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

(a) Faculty – None

(b) Doctoral/post doctoral fellows – 0

(c) Students – 1 In essay writing sponsored by RU

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

– None

31. Code of ethics of research followed by the departments

– Yes, U.G.C. code of ethics are followed by the Department.

32. Student profile programme-wise:

Name of the programme	Applications Received	Selected		Pass Percentage		
		Male	Female	Male	Female	
M.Sc 2012-14	145	13	40	76	82	
M.Sc 2013-15	127	13	37	72	79	
M.Phil 2012-13	29	4	19	75	89	
M.Sc 2014-16	151	21	41			Ongoing
M.Sc 2015-17	184	46	68			Ongoing
M.Phil. 2015-16		2	8			Ongoing

33. Diversity of students:

Name of the programme	% of students from the same university	% of students from other universities with the state	% of students from other countries
M.Sc 2011-13	94	6	0
M.Sc 2012-14	88	12	
M.Sc 2013-15	90	10	0
M.Phil 2012-13	78	22	0

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

Examination	Numbers
Civil Services examinations	2
Defence Services examinations	
NET	3
SET	
GATE	
Other Competitive Examinations	1

35. Student Progression:

Student Progression	% Against Enrolled
UG to PG	
PG to M.Phil	10
PG to Ph.D	5
Ph.D to Post-Doctoral	
Employed	
• Campus Selection	
• other	

36. Diversity of staff:

Percentage of Faculty who are Graduates	
of the same university	87
from the other universities within the state	0
from universities from other state	13
from universities outside the country	

37. No. of faculty who were awarded M.Phil, Ph.D., D.Sc., and D.Litt. during the assessment period

- (a) M.Phil. – None
 (b) Ph.D. – None
 (c) D.Sc. – None
 (d) D.Litt. – None

38. Present details of departmental infrastructural facilities with regard to

- (a) Library – 9000 Books and Journals almirahs and reading room for library users
 (b) Internet facilities for staff and students – Available
 (c) Total number of class rooms – 8
 (d) Class rooms with ICT facility – 8
 (e) Student laboratories – 8
 (f) Research laboratories – 6

39. List of Doctoral, Post-doctoral students & Research Associates

S. No.	Name of Candidate	Name of Supervisor	Title	Date
1	Ms. Sreerupa Roy	Dr. HO. Pandey	Study of organic Synthesis.....	21.02.11

2	Vivekanand Jha	Dr. VK. Singh	Radionucleide and trace elements	28.02.11
3	Sushil Kumar Pandey	Dr. H.O. Pandey	Synthesis of novel ...	14.09.11
4	Dr. Rajesh K Singh PhD	Dr. S. Misra	Corrosion protection ...	11.08.12
5	U.K. Mitra	Dr. R. Bhadani	Synthesis and charecterisation..	16.02.13
6	Vishnu S. Tiwari	Dr. R. Kumar	Studies of thermal ...	18.04.13
7	Sneha Agrawal	Dr. M. Alam	Electro organic synthesis ..	13.07.13
8	Santakar Giri	Dr. S. Misra	The role of transition metals ..	17.08.13
9	Tej Prakash Akhouri	Dr. K. Akhter	Study of vapour liquid	01.04.14
10	Ranjeeta Sharma	Dr. N.K. Roy	Studies on synthesis ..	09.12.13
11	Basudeo Dutta	Dr. S.S. Singh	Synthesis of metal complexes electrolytically by using undivided cell and their charecterisation	07.07.2014
12	Rishi Raj Ojha	Late Dr. T. Mahato	One step electrosynthesis of transitional metal complexes and their charecterisation	07.07.2014
13	Seema Chitlangia	Dr. Rajeev Ranjan	Preparation and charecterisation of host guest complexes of transition metal ions with crown ethers	26.03.2015
14	Rajesh Kumar	Dr. H.O.Pandey	Preparation and charecterisation of some food supplements of Cr by redox processes involving organic substrates	26.03.2015
15	Poonam Singh	Dr. Anita Kumari Gupta	Preparation of Cr complexes with biologically active organic ligands and study of their viability as food supplement for Cr deficiency	30.11.2015
16	Shreya Gorai	Dr. Mahmood Alam	Study of application of electro organic synthesis for preparation of metal complexes	30.11.2015
17	Jitesh Kumar Nayak	Dr. Rajeev Ranjan	Synthesis characterization and biological investigations of 3d-3d and 3d-IIIA heteronuclear Schiffs base complexes of Ni II and Cu II	30.11.2015

18	Neelam Xaxa	Dr. Rajesh Kumar	Instrumental and chemical analysis of prepared interacted trihetropoly complexes containing poly anions of Ni Ta W oxides.	18.01.2016
19	Kumari Anushree	Dr. Rajesh Kumar	Synthesis of some oxo metallates hetero atoms and analysis of their physical, chemical and catalytic properties	18.01.2016
20	Kumari Anushree	Dr. Rajesh Kumar	Synthesis of some oxo metallates hetero atoms and analysis of their physical, chemical and catalytic properties	18.01.2016
21	Anirban Chakroborty	Dr R.R. Jha	Electrical and optical properties of modified Co and Ni ferrite particles	18.01.2016

40. No. of post graduate students getting financial assistance from the university

1. 4 BPL students are given Rs. 500/- each per month
2. MA topper is appointed as Teaching Assistant for one year & is given Rs. 4000/- per month
3. PhD entrance test topper

41. Was any need assessment exercise undertaken before the development of new programmes?

if so, highlight the methodology – Not required

42. Does the department obtain feedback from

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

The curriculum development and updation is done with Faculty consultation and communicated to the University for approval by Academic Council

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

There is a centralised feed back system, from which the feed back is filtered to the departmental council and necessary corrective measures are adapted.

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

Department suggests curriculum development as per the need and suggestions of alumni/employer to the University

43. List of Alumni

Name	Post
Prof. S.K. Roy	Ex VC Kolhan University Chaibasa
Prof. G.D. Mishra	Ex HOD Chemistry Ranchi University, Ranchi
Prof. G.S. Singh	Deptt of Chemistry Ranchi University, Ranchi
Prof. V.K. Srivastava	Deptt of Chemistry Ranchi University, Ranchi
Dr. Rabindra Singh	Chief Conservator of Forest, Raipur
Sri. Amulya Ratan Sinha	Director Forest Research Institute, Haldwani
Sri. Anoop O F Baxla	Chief Conservator of Forest, Bhubneshwar
Sri. Rajiv Kumar IPS	SP Traffic, Ranchi
Dr. Sudha Upadhayaya	Ranchi Womens College, Ranchi
Sri. V.B. Pathak IAS	Secretary, Govt. of Sikkim, Gangtok

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

Name & Address	Sub. of Lecture	Date
Prof. KC Sathpathy, Sambalpur University Odisha	Environmental Chemistry	04/05/2013
Prof. P. Mohanty, Utkal University	Kinetics of Coordination Compounds	27/06/2013
Prof. A.P. Mishra, Dr. HS Gaur University, Sagar, MP	Catalytic behaviour of coordination compounds	05/02/2016
Prof. P. Mohanty, Utkal University Bhubneshwar	Theory and applications of ESR Spectroscopy	16/05/2016
Prof. Monica Dutta, University of Delhi, New Delhi	Catalytic properties	07/05/2014

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

- In the Department faculties are accustomed to the use of modern techniques of teaching.
- Interactive Discussion with the student in the classrooms
- Organizing remedial course for SC/ST and Minority students
- Weekly Seminar by the students is the regular practice of the department
- The students are regularly informed about the latest developments in their subject and syllabus

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

It is apparently exhibited by the results & research output

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

- The University has a vibrant NSS wing in which different workshops/ seminars are organised. The students actively participate in all the activities.
- Faculty and students participate in the Mass Awareness programme, related to Environmental issues.

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

- Faculty participate in the Mass Awareness programme, especially in the fields of Water and Environmental issues.

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 is involved in research involving corrosion prevention.

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

Title	Description
Challenges	The department intends to build itself as the best Department of Chemistry in the region.
Challenges	Capacity building of students in this tribal rich region.
Challenges	To inculcate research vision amongst the students
Challenges	To build a state of art research laboratory.
Opportunities	To work as development partner of the State by assimilation of intellectual inputs of the Faculties.
Opportunities	To spread scientific knowledge to the rural masses as old culture and taboos still prevails in Jharkhand
Opportunities	By spread of knowledge the weaker section of the tribal population can be brought to a higher level.
Strengths	The Department has quality Faculty Members.
Strengths	The faculty members are dedicated for capacity building of the students in this tribal region of Jharkhand
Strengths	There is cordial relation among the faculty members of the Department in spite of several constraints.
Strengths	Every teaching and non teaching employees of the Department is available in office from 10.30 to 4.30 PM positively.
Strengths	Good library with latest books and sound ambience
Weaknesses	The department lacks adequate number of Teaching as well as the Grade-III and Grade-IV Staff.
Weaknesses	Although the new building is excellent but need proper furnishing for research activities

Weaknesses	Due to financial constraints, many plans of the department could not be implemented
Weaknesses	There is no provision for generating funds against consultancy services in the University guidelines as yet.
Weaknesses	Although the University is autonomous the finances are released from the State Govt which is slow in responding to the needs of the departments.

52. Future plans of the department.

- The department plans to get maximum research project funded by different funding agencies
- The Department is very serious to implement the inter disciplinary approach in the field of higher research particularly in Ph.D./D.Sc. programme.
- Efforts will be made to get major research project for every teachers from U.G.C, DST and other funding agencies.
- The Department plans to encourage faculty member to participate in international/National seminars every year.
- The Department is planning to organize a national seminar in 2017

