

# Evaluative Report of the Department of Mathematics

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1. Name of the Department – Mathematics
2. Year of Establishment – 1960
3. Is the Department part of the faculty of the university? – Yes
4. Names of Programs offered (UG, PG, M.Phil, Ph.D. Integrated Masters, Integrated Ph.D. D.Sc. D.Lit. etc) – PG, 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 – Yes
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	3 MPS
Associate Professor	5	1	2 CAS
Asst. Professor	3	0	0
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.	No. of M.Phil.	No. of D.Sc
Dr. Anil Kumar Mahato	M.Sc., Ph.D	Professor	Generalized Integral Transformation, Fourier Analysis, Fractional Calculus, Fractal Geometry.	34	0	0	0
Prof Dr. Madan Mohan Prasad Singh	M.Sc, Ph.D	Professor	Integral Transforms and Special Func.	42	5	5	0
Prof Dr. Mithilesh Kumar Singh	M.Sc, Ph.D	Professor	Population Genetics, Discrete mathematics, Algebra	36	8	1	0
Prof Dr. Nand Kishore Agrawal (Rtd)	M.Sc, Ph.D.	Professor	Generalised Integral Transformation	36	0	26	0
Dr. (Mrs) Smita Dey	M.Sc, Ph.D.	Assoc. Professor	Fluid Dynamics	34	2	5	0
Dr. Sahdeo Mahto	M.Sc, Ph.D.	Assoc. Professor	Operations Research, Generalized, Integral transformation	34	0	6	0
Dr. C.S.P. Lugun	M.Sc, Ph.D.	Assoc. Professor	Generalised Integral Transformation	34	0	6	0

**12. List of senior visiting fellows, adjunct faculty, emeritus professors** – Prof N.K. Agrawal

**13. Percentage of classes taken by temporary faculty** – 10%

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

Course	Student	Teacher
M.Sc.	22	1
M.Sc.	30	1

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

Non Teaching Staff	Sanctioned	Filled	Actual
Support Staff (Technical)	3 Class III Staff	2	2
Administrative Staff	5 Class IV Staff	2	2

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

– Not applicable

**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 – Library grant from National Board of Higher Mathematics DAE, Mumbai every year

**(c) Research Faculty 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	Monographs	Chapters in Books	Edited Books	Books	Awards
Dr. Anil Kumar Mahato	12	9	0	0	0	0	0
Prof Dr. Madan Mohan Prasad Singh	15	4	0	0	0	1	1
Prof Dr. Mithilesh Kumar Singh	40	11	0	0	0	0	0
Prof Dr. Nand Kishore Agrawal (Rtd)	8	2	0	0	0	0	0
Dr. (Mrs) Smita Dey	25	0	0	0	0	0	0
Dr. Sahdeo Mahto	5	0	0	0	0	0	0
Dr. C.S.P. Lugun	1	2	0	0	0	0	0

Name	No. listed in International Database	Citation Index	SNIP	SJR	Impact Factor	h-index
Prof Dr. Madan Mohan Prasad Singh	None	None	None	None	0.1 to 0.2	None
Prof Dr. Mithilesh Kumar Singh	None	None	None	None	0.1 to 0.2	None

**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**

– None

**26. Faculty serving in****(a) National committees**

– None

**(b) International committees**

– None

- (c) Editorial Boards – None  
 (d) any other (please specify) – None

**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 Dr. Madan Mohan Prasad Singh	0	7
Prof Dr. Nand Kishore Agrawal (Rtd)	0	2
Dr. (Mrs) Smita Dey	4	4
Prof Dr. Mithilesh Kumar Singh	0	12
Dr. Anil Kumar Mahato	0	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 – None  
 (c) Students – None

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

National Seminar held on the topic Combinatorial and enumerative mathematics from 14/12/2015 to 16/12/2015 Key note Speaker Prof. (Retd.) Dr. Bikas Kumar Sinha, I.S.I. Kolkata. Funded by Ranchi University

- 31. Code of ethics of research followed by the departments** – As per Ph.D. regulation of Ranchi University approved by the Chancellor, Jharkhand

**32. Student profile programme-wise:**

Name of the programme	Applications Received	Selected		Pass Percentage		
		Male	Female	Male	Female	
M.Sc.	801	168	157	69	69	
M.Phil	54	24	5			Ongoing
Ph.D.	20	16				Ongoing
M.C.A.	1080	110	100	96	96	
M.Sc. 2012-14	271	28	60	71.5	76.5	
M.Sc. 2013-15	244	42	56	45.24	75	
M.Sc. 2014-16	302	35	65			Ongoing
M.Sc. 2015-17	406	89	114			Ongoing

**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 Universities outside the State	% of Students from other Countries
M.Phil	85	5	0	0
Ph.D.	60	40	0	0
M.Sc. 2012-14	96	4	0	0
M.Sc. 2013-15	97	3	0	0
M.Sc. 2014-16	97	3	0	0
M.Sc. 2015-17	99	1	0	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	
Defence Services Examinations	
NET	5
SET	
GATE	2
Other Competitive Examinations	

**35. Student Progression:**

Student Progression	% Against Enrolled
UG to PG	
PG to M.Phil	10

PG to Ph.D	3
Ph.D to Post-Doctoral	0
<b>Employed</b> • Campus Selection • other	60

**36. Diversity of staff:**

Percentage of Faculty who are Graduates	
of the same university	72
from the other universities within the state	
from universities from other state	28
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 – 3 Libraries  
 (i) U.G.C. 5400 books  
 (ii) NBHM 3024 books  
 (iii) M.C.A. 1767 books  
 (b) Internet facilities for staff and students – Yes Inlibnet  
 (c) Total number of class rooms – 11  
 (d) Class rooms with ICT facility – 2  
 (e) Student laboratories – 2  
 (f) Research laboratories – 1

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

S. No.	Name of Candidate
1	Mr. Shyam Saurabh
2	Mr. S.N. Topno
3	Mr. Ajit Kumar

4	Mr. Dhruv
5	Mrs. Abha Kumari
6	Mrs. Sujata Bala
7	Mrs. Mampi Saha
8	Mr. Roshan Kumar
9	Mr. Gopal Prajapati
10	Mr. Rahidas
11	Miss. Kaveri Kanchan Kumari
12	Mr. Om Prakash
13	Mr. Sameer Hazam
14	Mr. Tarkeshwar Paswan
15	Mrs. Sudarshna Basu
16	Mr. Dhananjay
17	Mr. Niraj Kumar

**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 is also appointed as Teaching Assistant for two years and is given Rs 5000/- per month

**41. Was any need assessment exercise undertaken before the development of new programmes? if so, highlight the methodology**

– Not Undertaken

**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 remodeling the course/Lecture schedule, as applicable.
- (b) **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** – The Seminar & interaction/ Group discussion/ Counseling.
- (c) **alumni and employers on the programmes offered and how does the department utilize the feedback?** – We invite the alumni for seminar and ask for their feedback

**43. List of Alumni**

Name	Post
Dr. Sukhendu Dey	Retired Prof., I.S.M. Dhanbad
Dr. A.R. Roy	Retired Prof., I.I.T. Kharagpur
Dr. Ajit Ghosh	Retired Prof., N.I.T. Tata
Dr. Sutapa Mukherjee	Retired Prof., Kolhan University, Chaibasa
Dr. M.K. Ghosh	Retired Prof., I.I.Sc. Bangalore
Dr. S.K. Agrawal	Retired Prof., V.B.U. Hazaribag
Dr. A.B. Kumar	Retired Prof., V.B.U. Hazaribag
Dr. N.K. Agrawal	Retired Prof., R.U. Ranchi
Dr. S.K. Akhaury	Retired Prof., R.U. Ranchi
Dr. Anup Minz	D.G.M. Jharkhand

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

National Seminar held on the topic Combinatorial and enumerative mathematics from 14/12/2015 to 16/12/2015

Key note Speaker Prof. (Retd.) Dr. Bikas Kumar Sinha, I.S.I. Kolkata.

Funded by Ranchi University

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

- Class room teaching and power point presentation

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

Units Exams in one Semester are taken regularly/Students Interactions.

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

- Participation in seminars/Symposia.

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

- Awareness for school students for Math Olympiad.

**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.**

All the faculty members of Department of Maths R.U. are engaged in Research work on new topics & ideas in their areas of their interest. MCA Course is running in the Deptt

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

Title	Description
Challenges	Majority of the students come from rural background, belonging to ST/SC/OBC. Most of them are economically weak. They could not stay in the town, They commute daily from their home villages. But they are doing well.
Opportunity	Mathematics has been made accessible to the weaker section girls from minority communities. Their number has increased a lot. The Department has been made NBHM M.Sc./Ph.D. Scholarship Exam Centre every year.
Strength	Committed Teachers
Strength	Research Environment
Strength	Rich Library (NBHM & UGC)
Strength	Infrastructural Set up - Building
Strength	Computer Laboratory, Audio Visual rooms, Matlab Lab.
Strengths	Dedicated teachers, Teachers are qualified, Teachers are provided with desktop with net facility, All the teachers have their own rooms So they can study without disturbance.
Weaknesses	More teachers are required.
Weaknesses	Lack of support staff

### 52. Future plans of the department.

- Collect project from industry and try to solve the problem with the help of students
- Use of latest technology in solving problems
- Exchange programme with foreign universities
- To introduce One year Diploma Course in: (i) Financial Math. (ii) Statistical Analysis & Analytics.