

Evaluative Report of the Department of Geology

1. Name of the Department – Geology
2. Year of Establishment – 1962
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)
M.Sc., M.Phil., Ph.D, P.G. Diploma in Water Resource Management, P.G. Diploma in Environmental Management and Development, P.G. Diploma in Gemmology
5. Interdisciplinary programmes and departments involved
P.G. Diploma in Water Resource Management, P.G. Diploma in Environmental Management and Development, P.G. Diploma in Gemmology
6. Courses in collaboration with other universities, industries, foreign, institutions, etc.
Proposed P.G. Diploma in Remote Sensing and G.I.S. in collaboration with Jharkhand Space Application Center
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	2	0	1 MPS
Associate Professor	5	0	3 MPS
Asst. Professor	2	0	1
Others	0	0	0

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

Name	Qualification	Designation	Specialization	No. of Year of Experience	No. of Ph.D.	No. of M.Phil	No. of D.Sc
Dr. Deepak Kumar Bhattacharya	M.Sc, Ph.D.	Professor	Geochemistry and Magmatism	37	2	0	0
Dr. Uday Kumar	M.Sc, Ph.D.	Assoc. Professor	Coal Geology Hydrogeology, Remote Sensing.	37	8	9	0
Late Dr. Vishwanath Jha	M.Sc, Ph.D.	Assoc. Professor	Geochemistry and Sedimentology	34	0	0	0
Dr. P.K. Verma	M.Sc, Ph.D., PGDRD	Assoc. Professor	Sedimentary petrology, Land & Water Management	33	2	0	0
Dr. Anand Murari Tiwary	B.Sc (H), M.Sc, Ph.D,LLB	Assoc. Professor	Environmental Geology	33	2	5	0
Dr. Bacha Ram Jha	M.Sc, Ph.D.	Asst. Professor	Coal Geology Coal Palynology, Sedimentology	27	7	8	0

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

– None

13. Percentage of classes taken by temporary faculty

– 25%

14. Programme-wise student Teacher Ratio.

Course	Student	Teacher
M.Sc.	36	1
M.Phil.	8	1

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

Non Teaching Staff	Sanctioned	Filled	Actual
Support Staff (Technical)	3 Class III Staff	3	3
Administrative Staff	5 Class IV staff	1	1

16. Research thrust areas as recognized by major funding agencies

Integrated Georesource development of North Karanpura Basin (Damodar Valley) in Jharkhand in UGC-SAP

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**
1. Geospatial Technology for Mineral Exploration Programme in Singhbhum Shear Zone. ISRO. SAC Code: OGP 62.10/4/55
 2. Characterisation, Evaluation and Classification of Gemstones of Koderma Gem Province in Jharkhand. UGC 36-326/2008(SR)
 3. Palynological study of Lower Gondwana Sediments of RhonERautpara Block of North Karanpura Coalfield: its implications on Palaeoenvironment and Palynostratigraphy. UGC.37-326/2009(SR)
- (d) **Total grants received** – Rs. 3190000/-
- (e) **Name of the funding agency** – ISRO and UGC
- 18. Inter-institutional collaborative projects & associated grants received**
- (a) **National Inter-Institutional Collaborative Projects**
Rs. 3,00,000 funded by Department of Mines and Geology Jharkhand, for the State Gemological Laboratory
- (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** – DST-FIST, UGC-SAP
- (b) **Total Grants Received** – Rs 67,00,000/-
- 20. Research facility center with**
- (a) **Research Facility with State Recognition** – Gem Testing Laboratory
- (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	Qualification	Designation	Specialization	No. of Year of Experience	No. of Ph.D.	No. of M.Phil	No. of D.Sc
Dr. Deepak Kumar Bhattacharya	M.Sc, Ph.D.	Professor	Geochemistry and Magmatism	37	2	0	0
Dr. Uday Kumar	M.Sc, Ph.D.	Assoc. Professor	Coal Geology Hydrogeology, Remote Sensing.	37	8	9	0
Late Dr. Vishwanath Jha	M.Sc, Ph.D.	Assoc. Professor	Geochemistry and Sedimentology	34	0	0	0
Dr. P.K. Verma	M.Sc, Ph.D., PGDRD	Assoc. Professor	Sedimentary petrology, Land & Water Management	34	2	0	0
Dr. Anand Murari Tiwary	B.Sc(H), M.Sc, Ph.D, LLB	Assoc. Professor	Environmental Geology	33	2	5	0
Dr. Bacha Ram Jha	M.Sc, Ph.D.	Asst. Professor	Coal Geology Coal Palynology, Sedimentology	27	7	8	0

- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) – Not available
- Citation Index – range/average – Not available
- SNIP – Not available
- SJR – Not available
- Impact Factor – range/average – Not available
- h-index – 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**

Dr. Uday Kumar	Sambalpur University
Dr. Anand Murari Tiwary	CMPDIL, MECON, ISM, GSI
Dr. Bacha Ram Jha	Visited Birbal Sahni Institute of Palaeobotany

26. Faculty serving in

- (a) National committees – None
 (b) International committees – None
 (c) Editorial Boards

Dr. Anand Murari Tiwary	1. Editor, Journal of Mining and Environment, Published by SAAEG, India Chapter 2. Editor in Chief, Bulletin of Pure and Applied Sciences, New Delhi
Dr. Uday Kumar	1. Editorial Board, Sahayadri, Patna 2. Editorial Board, Yugantar Prakriti, Ranchi

- (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
Dr. Uday Kumar		10
Dr. Anand Murari Tiwary	1	3
Dr. Bacha Ram Jha	3	1

28. Student Projects

- (a) Percentage of students who have done in-house projects including inter departmental projects – 100%
 (b) Percentage of students doing projects in collaboration with other universities/ industries/institute – 0%

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

- (a) Faculty – Dr. P.K. Verma
Shiksha Mitra
Puraskar
 (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 Workshop on Gemmology cosponsored with Geological Society of India in 2008.

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

32. Student profile programme-wise:

Name of the Programme	Applications Received	Selected		Pass Percentage		
		Male	Female	Male	Female	
M.Sc 2013-15	72	19	21	100	100	
M.Phil	38	22	11			Ongoing
Ph.D	16	0	2			Ongoing
PGDWRM	0	0	0			
PGDMD	10	10	0	100		
M.Sc 2014-16	90	28	24			Ongoing
M.Phil 2015-16	2	2	0			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.Sc	85	15	0	0
M.Phil	85	15	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	7
Defence Services Examinations	0
NET	8
SET	0
GATE	8
Other Competitive Examinations	15

35. Student Progression:

Student Progression	% Against Enrolled
UG to PG	NA
PG to M.Phil	2
PG to Ph.D	10
Ph.D to Post-Doctoral	1
Employed	
• Campus Selection	0
• other	95

36. Diversity of staff:

Percentage of Faculty who are Graduates	
of the same university	80
from the other universities within the state	0
from universities from other state	20
from universities outside the country	0

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**

Departmental Library with about 4000 books and journals; Subject specific Book Zone/Almirahs with Reading Room for Library users.

- (b) **Internet facilities for staff and students** – 25 nodes for Internet in the Department through LAN
 (c) **Total number of class rooms** – 8
 (d) **Class rooms with ICT facility** – 2
 (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	Aparna Nancy Toppo	Dr. D.K. Bhattacharya	Petromineralogical and geochemical characterization of Mantle derived rocks, South West of Medininagar, Palamau District, Jharkhand	10.2.2013
2	Pallavi Chatterjee Adhikari INSPIRE Fellow	Dr. Uday Kumar	Petrographic and Geochemical Characterization of Coals of Ghato Block, West Bokaro Coalfield, District Ramgarh (Jharkhand) with special reference to Distribution Behaviour of Trace Elements and their Impact on Environment	12.5.2011

3	Melvin A Ekka NET	Dr. D.K. Bhattacharya	Petrogenetic model for the evolution of Carbonatite-Alkaline Rock association around Beldih-Mednitanr areas, Puruliya District, West Bengal and their metallogenetic aspects.	17/02/ 2014
4	Sanjog Kumar Choudhary	Dr. D.K. Bhattacharya	Geochemical constraints of Iron Oxide Breccia type Polymetallic mineralization and associated rocks around Kantaldih-Bandhdih area of North Singhbhum Mobile Belt, Eastern India	21/01/2015
5	Anubha Tigga	Dr. Uday Kumar	Geochemical Characterization of Coals of South Karanpura Coalfields with Special Reference to their Environmental Impacts	02/02/2015
6	Nirmal Purty	Dr. Uday Kumar	Petrochemistry of Mafic-Ultramafic Rocks in Seraikela-Kharsawan District, Jharkhand	04/02/2015
7	Jugal Kishore	Dr. Uday Kumar	Petrology of Ultramafic Rocks of the areas in and around MATKU, East Singhbhum District, Jharkhand (INDIA) with special reference to industrial utilizations of PYROXENITES	05/05/2015
8	Chanchal Lakra	Dr. B.R.Jha	Geochemical and Palynological Studies of Coal bearing horizon of Pundi area, West Bokaro Coalfield, District-Ramgarh, Jharkhand (India)	02/02/2015
9	Alka Kumari	Dr. B.R.Jha	Study of Coal Geochemistry and Environmental Impact Assessment in Southern part of West Bokaro Coalfield, District-Ramgarh Jharkhand (India)	04/02/2015
10	Sneha Sinha	Dr. B.R.Jha	Palynological study of Coal bearing horizons of Tokisud-Patratu area, South Karanpura Coalfield, District-Ramgarh Jharkhand (India)	30/04/2015
11	Ch. Sharatchand Singh	Dr. Uday Kumar	Sedimentological Studies of Surma Group in and around Rengpang and Kaiphundai, Tamenglong District, Manipur	31/01/2015
12	Khundom Inaobi	Dr. B.R. Jha	Sedimentological and Ichnological studies of Upper Disang and Lower Barail sediments of Keithelmanbi-Taobam Section and Thongjaorok River Section of Indo Mynmar Range, Senapati and Tamenglong District, Manipur	31/01/2015
13	Krishna Gopal	Dr. D.K. Bhattacharya	Trace and Rare Earth Element geochemistry of Magnetites and associated Metaultramafites around Domnapahari-Salatua areas, Palamau District, Jharkhand	30/04/2015

14	Mable Martha Toppo	Dr. Uday Kumar	Remote Sensing and GIS based Characterization and Prioritization of Kanchi River Watershed, District Ranchi and Khunti, Jharkhand with special reference to Water Resource Management	16/07/2013
15	Anugrahit Lakra	Dr. Uday Kumar	Morphostructural Charactrisation of Raru River Watershed, Ranchi District (Jharkhand)with special reference to Water Resource Management	07/04/2014
16	Bindiya Vandana Ekka	Dr. Uday Kumar	Geospatial Multi-Scale Watershed Characterization and Land Use planning in Roro Gara Watershed, District West Singhbhum, Jharkhand	21/01/2015

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

1. 4 BPL students have their fees waved and Rs. 500.00/- month is given as scholarship,
2. Topper of M.Sc. serves as Teaching Assistant with a remuneration of Rs. 4000.00/- month for one year
3. Topper of Ph.D. is given financial assistance of Rs. 5000.00/- month for two years to pursue the Ph.D. research work.

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

Interaction with JSAC Scientists and University Department of Geology and Geography Faculties for finalising the syllabus for P.G. Diploma in Remote Sensing and G.I.S.

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 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?

Department suggests curriculum development as per the need and suggestions of staff to the University

(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 to the University

43. List of Alumni

Name	Post
Sri Abhik Mukherjee,	General Manager (Retd), Coal India
Sri A.V. Sahay,	General Manager, Coal India
Sri Prabhat Shankar,	General Manager, Coal India
Sri K.N. Prasad,	General Manager, Coal India
Sri Sanjiv Nath,	General Manager, O.N.G.C.
Sri Mrigendra K Sinha,	General Manager, O.N.G.C.
Prof (Dr.) P.K. Verma,	D.G. and Scientific Advisor, Govt. of M.P
Sri Radha Raman Pathak,	Commissioner Income Tax, Jamnagar
Sri N.P. Sinha,	Commissioner Income Tax, New Delhi
Sri S.R. Kisku,	Deputy Director General, Geological Survey of India, Ranchi

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

Name & Address	Sub. of Lecturers
Dr. U.K. Biswas, Ex Director, Geological Survey of India, Kolkata	Role of Geophysical Techniques in mineral exploration with special reference to Coal Exploration
Prof (Dr.) S. Das, I.I.T. Kharagpur	Sedimentary Basin Analysis and Hydrocarbon Exploration
Prof. P.K. Sarswati. IIT Mumbai	Role of Micropalaentlogy in Hydrocarbon Exploration
Prof (Dr.) T.K. Biswal, Head, IIT Mumbai	Tectonic Aspects of Indian Peninsula
Prof (Dr.) A. Naik, Head, Department of Earth Sciences, Sambalpur University	Application of Remote Sensing in Geo Resource Evaluation
Dr. R.N. Singh, Director (Retd) G.S.I. - National Mineral Awardee.	Mineral Exploration in mineralized zones of CGC
Sri B.Tirkey, Director (Retd) G.S.I.	Field work in High Grade Metamorphic Terrain
Sri S.R. Sharma, ONGC.	New Technology for Oil Exploration
Prof (Dr) S. Das, I.I.T. Kharagpur	Application and use of sophisticated geochemical instruments

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

- In the Department faculties are accustomed to the use of modern techniques
- Interactive Discussion with the student in the classrooms
- Organizing remedial course for SC/ST and Minority students
- Students are grouped in smaller number i.e. 5 to 6 and they are directly attached with teachers for proper guidance and counseling in

the subject and the preparation of field work materials before going to field for research in all courses run by the department

- Smart classrooms teachings have already been started
- Weekly Seminar/workshops are the regular practice of the department.

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.

- Department has National Service Scheme (NSS) unit in which 40 students have been yearly enrolled.
- Department is Nodal Centre for International Earth Science Olympiad Test in Ranchi being Coordinated by Dr. Uday Kumar
- Faculty participate in the Mass Awareness programme, especially in the fields of Water and Environmental issues

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

- Association with national research programmes of Aquifer Mapping.

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.

Gem Testing Laboratory is a State Facility and Extended Laboratory of Department of Mines and Geology, Govt. of Jharkhand

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 Geology in the region.
Challenges	Capacity building of students in this tribal rich region.
Challenges	Encourage female participation in the study of Geology
Challenges	To create awareness among masses for judicious and sustainable use of natural resources.
Challenges	Help the state in proper utilization in mineral resources.
Opportunities	Mineral rich hinterland of the University provides research openings of contemporary level.

Opportunities	To work as development partner of the State by assimilation of intellectual inputs of the Faculties.
Opportunities	Jharkhand is fortunate to have one of the oldest rocks of the Earth, and as researches on Geochronology will help in deciphering the evolution of Earth.
Opportunities	Opportunity for sustainable utilization researches and application of best practices in Energy resource minerals as well as Water resources.
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	Very strong alumni base stationed in and around Ranchi which provide direct field ,advance laboratory and recent scientific developments to our students through direct interaction programmes.
Strengths	Presence of experienced and dedicated teachers
Strengths	In addition to the basic subject taught, the department run several vocational courses.
Weaknesses	The department lacks adequate number of Teaching as well as the Grade-III and Grade-IV Staff.
Weaknesses	The infrastructure development is not sufficient as per need of the hour.
Weaknesses	Due to financial constraints, many plans of the department could not be implemented
Weaknesses	Lack of adequate number of teaching faculties
Weaknesses	Lack of sufficient number of books and journals to cater the need of ever increasing number of students of morning and evening shifts

52. Future plans of the department.

- The department is planning to get Centre for Advance Studies status from UGC, New Delhi in near future after completion of SAP programme of UGC.
- The department is likely to start P.G. Diploma in Geoinformatics course under self financing scheme
- The Department is very serious to implement the inter disciplinary approach in the field of higher research particularly in Ph.D./D.Sc. programme.
- The Department is also planning to develop academic interaction with the other universities in India and abroad.
- The Department is planning to organize a national seminar in 2016.
- The latest teaching methods shall be applied for the benefits of the student.
- The Department plans to organize special lecture by the eminent intellectuals of national and international repute.
- The Department plans to encourage faculty member to participate in international/National seminars every year
- Efforts will be made to get major research project for every teachers from U.G.C, DST and other funding agencies.