

Balagarh Bijoy Krishna Mahavidyalaya
REPORT ON THE ACADEMIC AUDIT (Departmental Profile)
Year: 2022-2023

1. **Name of the Department** : Chemistry
2. **Year of establishment** : Hons: 2017 Gen: 1985
3. **Vision of the Department** : To ensure that chemistry is the international expert in providing excellence in education, initiating research and inspiring environment that ignites the young minds.
4. **Demand Ratio (Intake capacity: :
No. of applications received)**

Year	Applications recieved	No. of Seats	Demand Ratio	Admitted
2018-19	62	87	1.4	12
2019-20	45	87	1.9	9
2020-21	81	87	1.07	2
2021-22	107	87	0.8	16
2022-23	61	87	1.4	8

5. **Students Enrollment (Year wise/Semester wise) (2018-2019 Onwards) :**

2018-19

Honours	Female	Male	Total	PwD
1 st sem	1	5	6	0
2 nd sem	1	5	6	0
3 rd sem	4	2	6	0
4 th sem	4	2	6	0
Grand Total	10	14	24	0

General	Female	Male	Total	PwD
1 st sem	0	5	5	0
2 nd sem	5	4	9	0
3 rd sem	3	0	3	0

4th sem	8	4	12	0
3rd year	3	3	6	0
Grand Total	19	16	35	0

2019-20

Honours	Female	Male	Total	PwD
1st sem	0	0	0	0
2nd sem	0	0	0	0
3rd sem	1	5	6	0
4th sem	1	5	6	0
5th sem	4	2	6	0
6th sem	4	2	6	0
Grand Total	10	14	24	0

General	Female	Male	Total	PwD
1st sem	3	6	9	0
2nd sem	6	6	12	0
3rd sem	0	1	1	0
4th sem	9	5	14	0
5th sem	3	0	3	0
6th sem	3	0	3	0
Grand Total	24	18	42	0

2020-21

Honours	Female	Male	Total	PwD
1st sem	0	1	1	0
2nd sem	0	1	1	0
3rd sem	0	0	0	0
4th sem	0	0	0	0
5th sem	1	5	6	0
6th sem	1	5	6	0
Grand Total	2	12	14	0

General	Female	Male	Total	PwD
1st sem	0	1	1	0
2nd sem	2	4	6	0
3rd sem	0	1	1	0
4th sem	2	4	6	0
5th sem	0	0	0	0
6th sem	0	0	0	0
Grand Total	4	10	14	0

2021-22

Honours	Female	Male	Total	PwD
1st sem	3	1	4	0
2nd sem	3	1	4	0
3rd sem	0	1	1	0
4th sem	0	1	1	0
5th sem	0	0	0	0
6th sem	0	0	0	0
Grand Total	6	4	10	0

General	Female	Male	Total	PwD
1st sem	2	3	5	0
2nd sem	4	5	9	0
3rd sem	0	1	1	0
4th sem	1	2	3	0
5th sem	2	4	6	0
6th sem	2	4	6	0
Grand Total	11	19	30	0

2022-23

Honours	Female	Male	Total	PwD
1st sem	0	0	0	0
2nd sem	0	0	0	0
3rd sem	3	1	4	0
4th sem	3	1	4	0

5 th sem	0	1	1	0
6 th sem	0	1	1	0
Grand Total	6	4	10	0

General	Female	Male	Total	PwD
1 st sem	2	5	7	0
2 nd sem	0	0	0	0
3 rd sem	2	3	5	0
4 th sem	4	5	9	0
5 th sem	0	1	1	0
6 th sem	1	2	3	0
Grand Total	9	16	25	0

6. Faculty strength and specialization.

Sr. No.	Name	Designation	Qualifications	Specialization	DoA	Vidwan Id
1.	Dr. Namrata Saha	SACT-I, Coordinator	Ph.D in Chemistry	Organic Chemistry	2019	
2.	Rimpa Mondal	SACT-I	M.Sc. in Chemistry, NET - JRF	Physical Chemistry	2018	
3.	Amit kr.De	SACT-I	M.Sc. in Chemistry, NET, WB-SET, GATE	Physical Chemistry	2019	
4.	Somshuddha Marick	SACT-II	M.Sc. in Chemistry	Organic Chemistry	2019	
5.	Paromita Halder	SACT-II	M.Sc. in Chemistry	Inorganic Chemistry	2019	

7. Teaching:

Sr. No.	Designation	Sanctioned	Filled	Actual	Total
1.	SACT			5	5

8. Teacher: Student Ratio: (Present Academic year): 5:8

9. Success Rate of Students (Honours):

Year	Appeared	Passed	Pass %
2018-19	6	5	83.33
2019-20	9	8	88.88
2020-21	6	6	100
2021-22	6	6	100
2022-23	1	1	100

10. Frequency of revision of Syllabus :
Years in which syllabus revised

11. Teacher-wise list of publications during the last five years (mentioning author(s) name(s), year of publication, title, name of journal, volume and issue no and page no. for publications in journals and author(s) name(s), year of publication, title of book, name of publisher, page nos. for book/edited book.

Sr. no.	Name	Title of publication	Name of Journal (with ISBN/ISSN)	Volume and issue no. page no.	Year of Publications	Name of Publisher
1.	Namrata Saha , Arpita Sarkar, Abhisek Brata Ghosh, Papri Mondal, Jit Satra and Bibhutosh Adhikary.	Advanced catalytic performance of amorphous MoS ₂ for degradation/ reduction of organic pollutants in both individual and simultaneous fashion	Ecotoxicology and Environmental safety, (0147-6513)	260, 290-300	2018	
2.	Abhisek Brata Ghosh, Namrata Saha , Arpita Sarkar, Amit Kumar Dutta, Jit Satra, and	Single source precursor driven phase selective synthesis of Au -CuGaS ₂ heteronanostructures: an observation of plasmon enhanced photocurrent efficiency.	Dalton Trans. (1477-9234)		2018	

	Bibhutosh Adhikary.					
3.	Arpita. Sarkar, Abhisek Brata Ghosh, Namrata Saha , Gopala Ram Bhadu, and Bibhutosh Adhikary	3.Newly Designed Amperometric Biosensor for Hydrogen Peroxide and Glucose Based on Vanadium Sulfide Nanoparticles.	ACS Appl. Nano Mater (2574-0970)		2018	
4.	Papri mondal, Jit Satra, Uday Ghorui, Namrata Saha and Bibhutosh Adhikary	4.Facile Fabrication of Novel Heterostructureed Organic- Inorganic High Performance Nonanocatalyst: A Smart System for Enhanced Catalytic Activity Towards Ciprofloxine degradation and Oxygen Reduction.	ACS Appl. Nano Mater (2574-0970)		2018	
6.	D.K Chandra, Namrata Saha , C.K Ghosh, A.N. Mukhopadhyay	Nanomechanical behaviour of green ceramics: Mg(OH) ₂ and MgO	Ceramics International		2023	Elsevier

12. Teacher-wise list of Research Projects:

Sr. No	Name of PI and CoPI (if any)	Title of Project	Sponsoring Agency	Duration in years	Amount in Lakhs	No. of Papers published
	NA	NA	NA	NA	NA	NA

13. (a) Mechanism of interaction with students (Lectures/tutorials/practical)/ Teaching Methods: All

(b) Efforts taken for curricular development: Feedback taken from students.

14. Mode of evaluation (class test/home assignment/student seminar/quiz etc):
Internal/External Examinations: All

15. Student Mentoring: Mentor-Mentee Ratio: (2020-2021 Onwards):

2020-2021

Sr.	Teacher's Name	Semester (H/G)	Student's Name	Date	Time
1	Amit. Kr. De	2nd Sem (H)	Santanu Debnath	23.07.2021	1:00 PM
		2nd Sem	Aritra Barik	28.07.2021	10:00 AM
			Ankita Sen		
2	Rimpa Mondal	4th Sem (G)	Ananta Sarkar	24.07.2021	2:00 PM
			Arpita Majumder	31.07.2021	
			Ayan kr Biswas		
			Milan Malo		
3	Namrata Saha	4th Sem (G)	Moumita Mukhejee	27.07.2021	11:00 AM
			Popy Das	03.08.2021	
			Popy Das		
			Subhradip Dutta		
			Swarnajit Maliick		
4	Somshuddha Marick	6th Sem (H)	Ardhendu Pal	23.07.2021	12.00 Noon
			Chanchal Biswas	30.07.2021	
			Debjyoti Das		
5	Paromita Halder	6th Sem (H)	Mahadev Das	26.07.2021	11:00 AM
			Samrat Ghosh	02.08.2021	
			Shreya Banerjee		

2021-2022

Sr. No.	Teacher's Name	Semester (H/G)	Student's Name	Date	Time
1	Prof. Amit. Kr. De	1st (Gen)	Anukul Sharma	08.02.2022	10:00 AM
			Sanjoy Roy		
			Sourav Mondal, Paromita Murmu		
2	Prof. Rimpa Mondal	3rd (Hon)	Santanu Debnath	04.02.2022	2:00 PM
		3rd (Gen)	Aritra Barik		
		5th (Gen)	Swarnajit Mallik		
			Subhradip Dutta		
3	Dr. Namrata Saha	1st Sem(H)	Gourav Biswas	07.02.2022	10:00 AM
		1st Sem(G)	Anirban Mondal		

			Paramita Dutta		
			Tamosha Sadhukhan		
4	Prof.Somshuddha Marick	1st Sem (H)	Rimi Mondal	07.02.2022	11.00 AM
			Neha Das		
			Snigdha Nag, Nag Pritam Mondal		
5	Prof. Paromita Halder	5th (Gen)	Popy Das	04.02.2022	01:00 PM
			Moumita Mukherjee		
			Milan Malo, Ananta Sarkar		

2022-2023

S.No	Teacher's Name	Semester (H/ G)	Student's Name	Date	Time
1	Prof. Amit Kr De	5 th Sem (H)	Santanu Debnath	20.01.2023	11 A.M
		3 rd Sem (G)	Paromita Dutta		
2	Prof. Rimpa Mondal	3 rd Sem (G)	Anirban Mondal Paromita Murmu	20.01.2023	12 Noon
3	Dr. Namrata Saha	3 rd Sem (H)	Rimi Mondal Neha Das	17.01.2023	11 A.M
4	Prof. Somshuddha Marick	3 rd Sem (G)	Sourav Mondal Sanjoy Roy	19.01.2023	11 A.M

5	Prof. Paromita Halder	3 rd Sem (H)	Gourab Biswas Snigdha Nag	14.01.20 23	12 Noon
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16. Details of seminar/symposia/conference/refresher course/training programmes organized during the last five years

Sr. No	Name of Convener/Coordinator	Title of seminar/ Course/ Conference	Sponsoring Agency	Duration with dates	No. of internal and external participants	Proceedings published Yes/No
1.	Dr. Namrata Saha, Rimpa Mondal	Effect of Donor atom in chemistry	Balagarh Bijoy Krishna Mahavidyalaya	1.5 hours, 26.07.2020	249	No
2.	Dr. Namrata Saha, Amit. kr. De	EMERGENT TRENDS IN CHEMISTRY	Balagarh Bijoy Krishna Mahavidyalaya	2.5 hours, 01.08.2020	94	No

Name of some outstanding participants in programmes:

17. Details of teacher-wise career and professional growth of faculty including training programmes Attended/deputation abroad under various during the last five years):

Sr. No.	Name of Faculty	Name of the Programme attended Seminars/Conference/Workshop/ OP/RC/ Training/Fellowship	Year
1.	Rimpa Mondal	Participation in the Seminar-cum-workshop on "IPR: Awareness, Practice and Challenges in Academia"	2019
2.	Dr. Namrata Saha	"How to Conduct Online Teaching-Learning in COVID Times?"	2020
3.	Dr. Namrata Saha	"Empowering Chemistry Teachers for 21st Century Higher Education"	2020

4.	Dr. Namrata Saha	Virtual value-Added course Green Chemistry: Through original Research.	2020
5.	Rimpa Mondal	One Day National Webinar on " Recent Developments in Mathematical Physics"	2020
6.	Rimpa Mondal	"MATERIAL SCIENCE RESEARCH AND THE RECENT TRENDS"	2020
7.	Rimpa Mondal	" Exploration of Insight in Innovative Research of Chemical Sciences in Modern Epoch"	2020
8.	Rimpa Mondal	Electrochemically deposited CuO/Cu ₂ O bulk heterostructures for efficient electrochemical sensing of organomolecules	2022

18. Details of alumni of the Department:

Student Progression student progression to higher education (2018-2019 Onwards):

Name	Subject	Year of Passing	Programme Joined	Year joined	Name of Institution Joined	Contact	Document
Anwesa Saha	Chemistry	2020	B.Ed	2020	Kalna Surendranath B.Ed College (Burdwan University)	9800722465	B.Ed Final Result
Mehnaz Parveen	Chemistry	2020	NGO (GP Coordinator)	2021	BITAN	8910441508	Appointment Letter
Moumita Biswas	Chemistry	2020	Chemical Engineering	2021	Dr. Meghnath Saha Institute Of Technology	8436738180	Provisional Admit Card
Sutapa Nath	Chemistry	2020	B.Ed	2020	Khamargachi B.Ed College	993393656	B.Ed Final Result

					(Burdwan University)		
Debjyoti Das	Chemistry	2021	Integrated Ph.d	2021	IACS	7908691903	
Samrat Ghosh	Chemistry	2021	M.Sc				

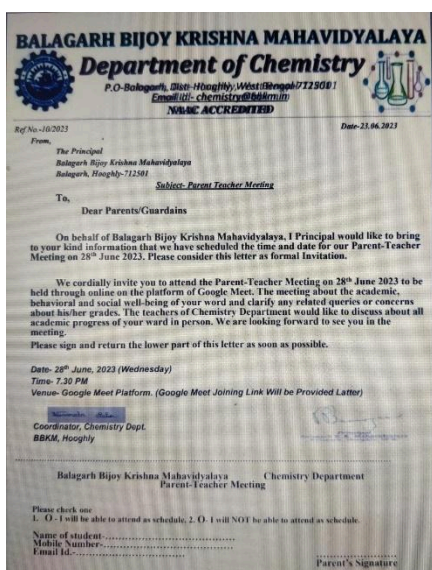
Students in Jobs:

Name	Subject	Year of Passing	Programme Joined	Year joined	Name of Institution Joined	Contact	Document
Mehnaz Parveen	Chemistry	2020	NGO (GP Coordinator)	2021	BITAN	8910441508	Appointment Letter

19. Details of Parents-Teachers Interaction:

No. of meetings: Arranged at least one such interactive parent-teachers meeting in every academic year.

2022-2023:



20. Feedback from students: Taken every year.

21. **Computer facility:** Central computer facility is available for all students.

22. **Computer: Student ratio:** 1:1

Internet facility for Staff/ Students: Free internet facility available

Library book: Student ratio: 1:2

23. **SWOT Analysis**

- A. Strength:** Effective teaching is the main strand of the department of chemistry. Our faculty have well educational qualification. We have good interaction with students & are very determinate towards accomplishing their intention. We carry out theoretical & practical classes regularly, also provide them remedial classes after completion of syllabus. We have minimum of instruments to carry out practical in easiness. We made industrial visit with students. Through such field visit they can acquire knowledge about daily life chemistry & industrial chemistry. We are susceptible to giving our student a point to take up higher education further & making research interest in this field. Department of Chemistry is also focused on offering mentoring session with students very often to understand their problems related to education & also encourage them to do better in this field by providing knowledge about variety of employment opportunities.
- B. Weaknesses:** The department of chemistry has some areas to rectify which becomes our weakness in current scenario. Carrying out education in the limited availability is one of our debilitations. We have limited laboratory facilities & instruments to run practical classes & also unable to dispense properly the departmental library & computers. Bearing all expenditure to run a chemistry department in rural environment is a big challenge for us.
- C. Opportunities:** The department has a very active interaction with students, teaches courses for chemistry career planning and service outreach, and also offers the opportunity for undergraduates to teach. Students are also encouraged to explore careers by volunteering, joining professional organizations. We made an industrial visit at kesoram rayon kuntighat, Kesoram Rayon manufactures one of the highest quality rayon, transparent paper and filament yarn in the region. With a strong focus on research and development. This visit makes them have a clear idea of how the application of chemistry is deeply involved in our daily lives. So that students can be aware of the use of chemistry in daily life. And it gives them an idea of what kind of varsites job opportunities they can get after studying chemistry. Department of Chemistry also offers a variety of employment opportunities such as academics, laboratory technicians, administrative and information technology support, purchasing, technical services (machinists, electronics, glass blowers), student and teaching services, and much more.

D. Threat: Carrying out a chemistry department in a rural area is not less than a big deal. In rural areas, many meritorious students usually due to lack of funds doesn't show interests in higher education or even if interested leave studies before the end of the course to join any work. To all those students towards science especially their interest in chemistry has to be made to keep their studies oriented. We have to build their interest for their studies so that they are after a while they do not give up their studies due to lack of money. For the convenience of their studies, we have to make arrangements so that they get enough books available in library. That's why we have a college library and we have built our department library as well as an e-library. We always try to ensure that their studies are never stopped due to lack of books. We have to encourage them to attend regular classes and build their interest so that they maintain an interest in that class. We have even been able to make some of them interested in higher education later on. As well as the necessary equipment to run an honours department laboratory of chemistry properly in rural areas, adequate water supply, adequate electric city and gas supply should be available. Running a chemistry department with all these arrangements is really a difficult task.

24. Future Plans: Ensure to provide the upgraded version of all facilities including teaching classes, laboratory use, free internet facility, use of computer, departmental book library etc. Also, we will be liable to giving our student a point to take up higher education further & making research interest in this field.