

Balagarh Bijoy Krishna Mahavidyalaya
REPORT ON THE ACADEMIC AUDIT (Departmental Profile)
Year: 2022-23

1. Name of the Department : MATHEMATICS
2. Year of establishment : Honours: 2003 General: 1985
3. Vision of the Department : The mission of the mathematics department of this institute is to provide an environment where students can learn and become competent users of mathematics and mathematical application. Moreover, the department will contribute to the development of students as mathematical thinkers, enabling them to become lifelong learners, to continue to grow in their chosen professions, and to function as productive citizens.
4. Demand Ratio (Intake capacity: : 0.968
 No. of applications received)

Year	Applications recieved	No. of Seats	Demand Ratio	Admitted
2018-19	26	28	0.92	5
2019-20	29	28	1.03	2
2020-21	23	28	0.82	1
2021-22	30	28	1.07	4
2022-23	28	28	1	0

5. Students Enrollment (Year wise/Semester wise) :

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

General	Female	Male	Total	PwD
1 st Year/1 st sem	0	0	0	
2 nd Year/3 rd sem	0	2	2	
3 rd Year/5 th sem	0	0	0	
Grand Total			2	

6. Faculty strength and specialization.

Sr. No.	Name	Designation	Qualifications	Specialization	DOA	Vidwan Id
	Dr.Biswajit Paul	Assistant Professor	Ph.D	Foundations of Quantum Mechanics	01.08.2019	342260
	Prof. Sanjukta Das	SACT	M.SC	Complex Analysis	21.02.2019	
	Prof. Papia Ghosh	SACT	M.SC	Operation Research	22.02.2019	354469

Teaching:

Sr. No.	Designation	Sanctioned	Filled	Actual	Total
	Professor				
	Associate Professor				
	Assistant professor	01	01	01	01
	SACT			02	02

7. Student : Teacher Ratio: (Present Academic year): 7:3

8. Success Rate of Students(Honours):

Year	Appeared	Passed	Pass %
2018-19	0	0	0
2019-20	7	5	72
2020-21	5	5	100
2021-22	2	2	100
2022-23	1	1	100

9. Frequency of revision of Syllabus :2014-2015, 2017-2018
Years in which syllabus revised

10. 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.

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
						Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
Detecting two qubit both-way positive discord states	Biswajit Paul	Mathematics	<i>The European Physical Journal D</i>	27 th August, 2019	1434-6079	https://www.springer.com/journal/10053	https://link.springer.com/article/10.1140/epjd/e2019-100100-8	Yes
Characterizing quantum correlations in a fixed-input n-local network scenario	Biswajit Paul	Mathematics	Physical Review A	19th March, 2020	2469-9926	https://journals.aps.org/prj/	https://journals.aps.org/prj/abstract/10.1103/PhysRevA.101.032328	Yes
Detection of genuine tripartite entanglement in quantum network scenario	Biswajit Paul	Mathematics	Quantum Information Processing	17th July, 2020	1573-1332	https://www.springer.com/journal/11128	https://link.springer.com/article/10.1007/s11128-020-02750-1	Yes
Shareability of quantum steering and its relation with entanglement	Biswajit Paul	Mathematics	Physical Review A	6th November, 2020	2469-9926	https://journals.aps.org/prj/	https://journals.aps.org/prj/abstract/10.1103/PhysRevA.102.052209	Yes

Persistence of Genuine Correlations Under Particle Loss	Biswajit Paul	Mathematics	Physical Review A	3rd August, 2020	2469-9926	https://journals.aps.org/prabstract/10.1103/PhysRevA.102.022401		
Any two-qubit state has nonzero quantum discord under global unitary operations	Biswajit Paul	Mathematics	The European Physical Journal D	17th February, 2021	1434-6079	https://www.springer.com/journal/10053	https://link.springer.com/article/10.1140/epjd/s10053-021-00055-1	Yes
Revealing hidden steering nonlocality in a quantum network	Biswajit Paul	Mathematics	The European Physical Journal D	4th August, 2022	1434-6079	https://www.springer.com/journal/10053	https://link.springer.com/article/10.1140/epjd/s10053-022-00469-5	Yes
Coherence distillation through one-way LICC	Biswajit Paul	Mathematics	International Journal of Quantum Information	16th March, 2023		https://www.worldscientific.com/worldscinet/ijqi	https://www.worldscientific.com/doi/10.1142/9749923500144	Yes

11. 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

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

(b) Efforts taken for curricular development:

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

Class Test, assignment, Internal Examination, External Examination, Advance learner Seminar

14. Student Mentoring :Mentor: Mentee Ratio

15. 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

Name of some outstanding participants in programmes:

16. 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/ Training/Fellowship	Date and Duration

17. Details of alumni of the Department:

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

Year of Passing	Name	Programme joined/ Year	Name of institution joined	Phone no	Email	Document Collected
2019-20	CHAITALI BISWAS	B.Ed	KALNA COLLEGE	6297915938		

2020-2021	SNAHASHIS GHOSH	B.Ed	KHAMARGACHI B.ED COLLEGE	7047778331		
2019-2020	ARPITA CHATTERJEE	M.Sc	KALYANI UNIVERSITY	8597488053		
2021-2022	Arpita Majumdar	M.Sc	Netaji Subhas Open University	8597488053		

Students in Jobs:

Year of Passing	Name of the Alumni	Position / Designation	Name of the Organisation/ Year	Phone	Email	Document Collected
2022	Ayan krBiswas	Deputy Manager-1	ICICI Private Limited	6290701370	Biswasayan90@gmail.com	Appointment letter
2020	Prakash Mondal	Level-1, TM-4	Indian Railway	9382458478	Mondalprakash161@gmail.com	Appointment letter
2020	Susmita Haldar	Lady Constable	Asansol-Durgapur Police Commissionerate	6295438493	putuhalderdas@gmail.com	Identity Card

18. Details of Parents-Teachers Interaction: 27.06.2023,28.06.2023,30.06.2023
No. of meetings: 01

19. Feedback from students: No student attended.

20. Computer facility: Computer: Student ratio: 1:1
Internet facility for Staff: Yes Students: Yes
Library book: Student ratio : 200 : 1

21. SWOT Analysis

A. Strength:

- The Department with its available infrastructure is running smoothly with good team spirit among faculty members.
- Good reputation of the department
- History of progressive results in final year B.Sc.

- Our department has undertaken various activities to create awareness about current development in mathematics.
- Excellent academic support and accredited programmes.
- The well-qualified faculties.
- A spacious campus having potential for expansion.
- Good library facilities.
- A well-defined student admission policy.
- The selection of students strictly based on merit. Student Scholarship.
- Mentoring of students.
- A strong bond with a high level of interaction between faculty and students.
- Dedicated and experienced supporting and administrative staff.
- Transparency and accountability in administration.
- Fees are highly subsidized and helpful to the economically weaker section of society.
- Good infrastructural facilities.
- Fair and equitable distribution of academic work.
- Strong support from the local community.

B. Weaknesses:

- Insufficient number of permanent faculty for smooth running of teaching learning process.
 - No separate Departmental Library is formed in our Department.
 - Availability of funds is limited in certain cases.
 - The lack of value added/ add-on courses/online courses.
 - Professional development for the faculty is limited.
 - Lack of sufficient classroom
 - Quality of students is not satisfactory.

C. Opportunities:

In spite of having its limitation, the department tries to render quality education, encourage and prepares students for building their higher academic career. This department is known for its student friendly atmosphere. We attend to all the problems of the students at a very intimate personal level. They can approach teachers for their doubts.

D. Threat:

Lack of public transport facilities might cause a decrease in the strength of students coming from distant places to the college. The college is surrounded by many other Govt aided/Govt. colleges with developed infrastructure that might reduce the number admissions. The gap between the curriculum and the industry requirement which makes our graduates unemployable.

22. Future Plans:

We are planning to have the following new activities to enrich our department.

- 1) The Department of Mathematics will host an orientation program on e-resources at the beginning of every semester.
- 2) To provide the platform to the students for sharing their problems related to academic and non-academic matters, a mentoring session is to be arranged in this session.
- 3) Internship and placements will be initiated in collaboration with Govt. and Non Govt. organizations at National or International level.
- 4) We will make every effort to increase the number of Research-Publications.
- 5) To focus on Skill development of students, A MS office course is to be started in collaboration with the Department of Commerce & IQAC.
- 6) The department will continue with online teaching using various LMS.
- 7) To increase the reading habits of students, library classes will be incorporated in class routine.
- 8) This department is also focusing on having smart classroom for enhanced teaching.
- 9) To encourage the students to express themselves, our department is going to publish a Wall magazine related to various topics of Mathematics.
- 10) We will maintain the tutorial system in every semester.
- 11) Besides the above mentioned academic activities, one or two Seminar and a series of special lecture will be organized in this session.