1. Name of the Department: MATHEMATICS

2. Year of inception : 1986

3. Mission and Vision of the Department (write within 200 words):

 MISSIONS:

* To search for talent and to encourage the young students to opt for higher mathematics or higher studies in other branches such as Computer Science, Information Science, Mathematical Biology, Economics etc where interaction is going on with Mathematics in different universities and institutes across the country.
* Developing analytical aptitude in enthusiastic students who can contribute to mathematics education even at the grassroot level.
* To help, encourage and build confidence in students to take up varied range of state and central government jobs that necessitates mathematical ability and reasoning.

 VISION: The Mathematics department envisions to enrich able and logical young minds. The department aims to build individuals who are capable

 of implementing mathematics in creative and innovative ways; be it by opting for higher studies or in their daily lives irrespective of the opted

 professions, and hence aiding the growth of the community around.

4. A Brief history of the Department: The subject Mathematics was introduced in three years degree course with effect from 1990 as per guidelines of Gauhati University and Major course was started from the year 1995 .

5. Major Thrust area of the Department: Enabling students to achieve under-graduate degrees successfully with quality and able understanding of mathematics.

6. Significant Contributions made by the Department from 2016-17 to 2020-21 for overall academic/administrative development of the College (maximum five bullets):

7. Programs and Courses of the Department:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Sl. No. | Level (UG /PG) | Name of the program  | Name of the Course | Course code | Nature of the course. (field Based/project based/Theoretical/Experimental etc. | Crosscutting issues such as gender issue, sustainable development, environment etc. |
| 2016-17 | 1 | UG |  - | B. Sc. (Major & General) |  - |  - |  - |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 2017-18 | 5 | UG |  | B. Sc. (Major & General) |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 2018-19 | 8 | UG |  | B. Sc. (Major & General) |  |  |  |
| 9 |  |  |  |  |  |  |
| 2019-20 | 10 | UG |  | B. Sc. (Major & General) |  |  |  |
| 12 |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |
| 2020-21 | 14 | UG |  | B. Sc. (Major & General) |  |  |  |
|  | 15 |  |  |  |  |  |  |
|  | 16 |  |  |  |  |  |  |

8. Certificate/Diploma courses offered by the Department (*evidences have to be enclosed*): No

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Name of the course | Duration | Year of Introduction | Total enrolled students | Male | Female |
| 2016-17 |  |  |  |  |  |  |
| 2017-18 |  |  |  |  |  |  |
| 2018-19 |  |  |  |  |  |  |
| 2019-20 |  |  |  |  |  |  |
| 2020-21 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

9. Program outcomes, program specific outcomes and course outcomes for all programs offered by the Department: (*separate sheet may be attached*): Attached

10. Details of faculty in the Department in the current year:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Name | Designation | Area of Specialization | Highest Qualification | Sanctioned/full time/guest teacher etc. | Date of joining | Average Service age of teachers (excluding part-time/guest teachers) |
| 1 | Rina Deka | Associate Proffessor | Algebra | MSc. | Sanctioned | 03.8 1988 |  |
| 2 | Mr. Mahananda Kr.Pathak | Associate Proffessor |  | MSc. | Sanctioned | 1990 |
| 3 | Dr. Kalpana Misra | Assistant Proffessor | Algebra | MSc.,BEd., PhD | Sanctioned | 20-08-2010 |

11. Details of faculty who have left out/retired from the department:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. No. | Name | Designation | Highest Qualification | Sanctioned/full time teacher etc. | Date of retirement |
| 1 | Late Khargeswar Deka | Assistant Professor | M Sc. | Sanctioned | 05-10-2010 |

12. Details of supporting staff/bearers in the Department:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name | Designation | Sanctioned/full time/contractual etc.  | Date of joining |
| 1 | Prabin Das | Bearer | Contractual |  |

13. Student enrollment in the Department:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Intake capacity | No of Enrolled students  | Male (major) | Female (major) | Demand ratio |
|  | Major/Honours | General/Regular |
| 2016-17 | 50(M), 220(G) | 54 | 210 | 46 | 8 |  |
| 2017-18 | 50(M), 220(G) | 24 | 104 | 19 | 5 |  |
| 2018-19 | 50(M), 220(G) | 29 | 114 | 21 | 8 |  |
| 2019-20 | 50(H), 220(G/R) | 43 | 77 | 37 | 6 |  |
| 2020-21 | 50(H), 220(G/R) | 14 | 44 | 9 | 5 |  |
| 2021-22 | 60(H), 220(G/R) | 60 | 71 |  |  |  |

14. Student-teacher ratio of the Department:

|  |  |
| --- | --- |
| Year | Ratio |
| 2016-17 | 88: 1 |
| 2017-18 | 42 : 1 |
| 2018-19 | 47 : 1 |
| 2019-20 | 40 : 1 |
| 2020-21 | 19 : 1  |
|  |  |

15. Details of final year result in the Department(2016-17 to 2020-21): [Evidences have to be attached]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Name of the program | Number of students appeared | Number of students passed | Pass percentage | Number of students with First Class  | University rank if available  |
| 2016-17 | Honours | 40 | 19 |  | 8 |  |
| General |  |  |  |  |  |
| 2017-18 | Honours | 33 | 08 |  | 01 |  |
| General |  |  |  |  |  |
| 2018-19 | Honours | 42 | 9 |  | 5 |  |
| General |  |  |  |  |  |
| 2019-20 | Honours | 23 | 9 |  | 6 |  |
| General |  |  |  |  |  |
| 2020-21 | Honours | 29 | 15 |  | 15 |  |
| General |  |  |  |  |  |

16. Details of students’ progression to higher education year-wise:*(separate sheet may be used for supporting documents).*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | No. of Students | Name of the student | Enrollment number in the College | Program admitted to | Name of the University/Institution |
| 2016-17 |  04 | Hirakjyoti Kalita\* |  | MSc. | Cotton College |
| Samujjal Kashyap |  | MSc. | Gauhati University |
| Deijy Priyam Nath\* |  | MSc. | Gauhati University |
| Samarjit Kakati |  | MSc. | Arya Vidyapeeth College |
| 2017-18 |  10 | Bedanta Deka\* |  | MSc. | Gauhati University |
| Arjun Singh Boro\* |  | MSc. | Gauhati University |
| Ranjit Sarma \* |  | MSc. | Tezpur University |
| Karan Kakati\* |  | MSc. | Gauhati University |
| Deizy Nath\* |  | MSc. | Gauhati University |
| Resma Lozy\* |  | MSc. | UST Meghalaya |
| Himakhsi Kalita\* |  | MSc. | J N College Boko |
| Narvin Islam\* |  | MSc.,  | Bajal College,  |
| Chinku Baruah |  | MSc. | Bajal College, |
| Beauty Das |  | MSc.,  | Arya Vidyapeeth College |
| 2018-19 |  04 | Rajkrishna Saha\* |  | MSc. | Gauhati University |
| Queen Nath |  | MSc. |  |
| Diptanil Dutta\* |  | Msc | Bodoland University |
| Parag Jyoti Nath\* |  | Msc. | Assam University |
| 2019-20 |  01 | Jayashree Rajbonshi \* |  | MSc. | J N College Boko |
| 2020-21 |  05 | Mridul Medhi \* |  | MSc. | Gauhati University |
| Biraj Kashyap\* |  | MSc. | Arya Vidyapeeth College |
|  | Puja Deka\* |  | MSc. | Arya Vidyapeeth College |
|  | Brajen Das \* |  | MSc. | Arya Vidyapeeth College |
| Dipjyoti Mali \* |  | MSc. | Gauhati University |

17. Details of student placement year-wise with evidences (2016-17 to 2020-21): *(Separate sheet may be used for supporting documents).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Name of the student | Enrollment number in the college | Placed in with Designation | Name of the industry/organization/institute and place |
| 2016-17 | Mahidul Jaman |  | SI Police | ADGP |
| 2017-18 | Jugal Krishna Kashyap |  | PGT (Maths) | Director of Secondary Education |
| 2018-19 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |
| 2019-20 | Diptanil Dutta |  | Chemical operator( Apprentice course) | Bongaigaon refinery |
| 2020-21 | Pranab Jyoti Parashar |  | Assistant Professore | DTE, Assam Engineering College |
| Dilowar Hussain |  | Assistant Teacher | Education Department, Assam Govt. |
| Dipjyoti Choudhury |  | SI Police | ADGP |
| Bhaskar Kakati |  | Graduate Teacher(Science) | Inspector of Schools, Nalbari |
| 2021-22 | Ranjit Sarma |  | SWO - A | Central Bank of India |
| Bhaskar Kakati |  | PGT (Maths) | Inspector of Schools, Kamrup Dist. Circle |
| Parashar Kalita |  | Media Expert | NHM |
| Dipjyoti Sarania |  | Assistant Teacher | Elementary Education, Assam |

18. Details of seminar/workshop/symposium/student exchange/teacher exchange etc. conducted by the Dept. (2016-17 to 2020-21): *(Separate sheet may be used for attaching evidences).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Title of the seminar/workshop/symposium/student exchange/teacher exchange etc. | Key Objective of the seminar/workshop/symposium | No. of Students Participated | Date and Duration |
| 2016-17 |  |  |  |  |
|  |  |  |  |
| 2017-18 |  |  |  |  |
|  |  |  |  |
| 2018-19 |  |  |  |  |
|  |  |  |  |
| 2019-20 | Webinar on Game Theory: Can there be a theory to play a game ? | Basic knowledge of Game Theory | 150 | 27th July 2020 |
| Webinar on The convergence of Infinite Series of numbers and functions | Convergence of series | 160 | 8th August 2020 |
| 2020-21 | Popular Talk organised on 17th December 2021, Topic: IN SEARCH OF CAREER Resource Person: Prof. Hemanta Kumar Sarma Gauhati University | Career | 104 | 17th December, 2021 |
| Celebration of National Mathematics Day on 22nd December  | Contribution of Ramanujan | 150 | 22nd, 2021 |

19. Details of OC/RC/STC/FDP attended by the teachers of the Department:(*evidence to be attached)*

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Title of the OC/RC/STC | Organising University/Institution | Date and Duration |
| 2016-17 |  |  |  |
|  |  |  |
| 2017-18 | RC- Emerging trends in science and technology | HRDC Gauhati University | 25-10-17 to 14-11-17 |
| FDP on “Use of ICT Tools for Classroom Teaching” | E&ICT Academy IIT GUWAHATI in association with B Borooh college | 21st to 27th May,2018 |
| 2018-19 |  |  |  |
|  |  |  |
| 2019-20 |  |  |  |
|  |  |  |
| 2020-21 | FDP on Imparting online teaching learning methodology during COVID-19 pandemic | E&ICT Academy IIT GUWAHATI | 22-29th June 2020 |

20. Details of books published from/by the Department (2016-17 to 2020-21): *(Separate sheet may be used for attaching evidences).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Title of the Journal/Book | ISBN/ISSN no. | Publisher | Date of publication |
| 2016-17 |  |  |  |  |
|  |  |  |  |
| 2017-18 |  |  |  |  |
|  |  |  |  |
| 2018-19 |  |  |  |  |
|  |  |  |  |
| 2019-20 |  |  |  |  |
|  |  |  |  |
| 2020-21 | Degree Mathematics (ALGEBRA) | 978-93-90942-84-8 | Ashok Book Stall | 26-01-2021 |
|  |  |  |  |

21. Details of teachers’ publications (2016-17 to 2020-21): *(separate sheet may be used for attaching evidences).*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Name of the Teacher | Title of the Journal/Book | Title of the Paper | ISBN/ISSN no with impact factor | Peer-reviewed/UGC listed | Year of Publication |
| 2016-17 |  |  |  |  |  |  |
|  |  |  |  |  |  |
| 2017-18 | Dr. Kalpana Misra | Emerging trends in science and technology | Some Application of Group Theory in Different Field | 978-81-92955-63-6 |  | 2017 |
|  |  |  |  |  |  |
| 2018-19 |  |  |  |  |  |  |
|  |  |  |  |  |  |
| 2019-20 |  |  |  |  |  |  |
|  |  |  |  |  |  |
| 2020-21 |  |  |  |  |  |  |
|  |  |  |  |  |  |

22. Details of teachers’ publications in conference proceedings: *(separate sheet may be used for attaching evidences).*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Name of the Teacher | Title of the seminar/conference proceeding | Title of the Paper | ISBN/ISSN no with impact factor | Year of Publication |
| 2016-17 |  |  |  |  |  |
|  |  |  |  |  |
| 2017-18 | Rina Deka and Dr. Kalpana Misra  | Innovative practices in teaching learning and evaluation in higher education | Mathematics –A first step towards education | 978-81-93152-50-6 | 2017 |
|  |  |  |  |  |
| 2018-19 |  |  |  |  |  |
|  |  |  |  |  |
| 2019-20 |  |  |  |  |  |
|  |  |  |  |  |
| 2020-21 |  |  |  |  |  |
|  |  |  |  |  |

23. Details of Departmental Library (if any):

a. Date of Establishment of the Library: 2004

|  |
| --- |
| Number of books/Journals available in the Departmental Library (year-wise) |
| 2016-17 | 27 |
| 2017-18 | 17 |
| 2018-19 | 17 |
| 2019-20 |  |
| 2020-21 | 3 |

24. Sports and cultural activities / competitions organized by the Department (*evidence has to be attached*):

|  |  |  |  |
| --- | --- | --- | --- |
| Name of the activity | National/International/State/University/College | Number of participants | Date and year of receiving the award/prize |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

25. Details of Infrastructure facilities in the Department: (*use bullets*)

* Two Classrooms
* One teacher’s common room
* Toilet

26. No. of teachers using ICT (*data of 2020-21*)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of the Teacher | Number ofteachers usingICT (LMS, eResources) | ICT Tools andresourcesavailable | Number of ICTenabledClassrooms | Numberof smartclassrooms | E-resources andtechniques used |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |

27. Awards for Innovation won by Teachers/Research scholars/Students of the Department (*evidence to be attached)*

|  |  |  |  |
| --- | --- | --- | --- |
| Title of the innovation | Name of awardees | Awarding agency | Date of award |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

28. Number of extension and outreach programs conducted in collaboration with industry, community and Non- Government Organizations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., (*list of students to be attached*)

|  |  |  |  |
| --- | --- | --- | --- |
| Title of the activities | collaborating agency | Number of teachers participated in suchactivities | Number of studentsparticipated in suchactivities |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

29. Number of Collaborative activities for research, faculty exchange, student exchange during the year (*evidence to be attached)*

|  |  |  |  |
| --- | --- | --- | --- |
| Name of the activity | participant | Source of financial support | Duration |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

30. Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. (evidence to be provided)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Nature of Linkage | Title of the Linkage | Duration from | Duration to | No. of participants | Name of the participant with credentials |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

31. MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. (*evidence to be attached)*

|  |  |  |  |
| --- | --- | --- | --- |
| Name of the organisation/institution | Date of MoU signed | Purpose | Activities |
|  |  |  |  |
|  |  |  |  |

32. Capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.

|  |  |  |  |
| --- | --- | --- | --- |
| Name of the capability enhancement scheme | Date of implementation | Duration | No. of students participated/enrolled |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

33. Field trip conducted by the department. (*list to be attached*)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. No. | Name/detail of the trip | Date of the trip | Duration of the trip | No. of students | No. of students participated/enrolled |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |

34. Grievance redressal of the Department (Year-wise): (*attach evidences*)

|  |  |  |  |
| --- | --- | --- | --- |
| Total grievance received | No. of grievances redressed | Whether redressed in the Dept. or referred to the Principal/committees | Average number of days for grievanceredressal |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

35. Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be Awards for Innovation won by Institution/Teachers/Research scholars/Students :

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of the award/prize/medals | National/International/State/University/College | No. of awards in sports | No. of awards in cultural | Student ID no. | Date and year of receiving the award/prize |
| First prize in mimicry | national |  | 1 |  | 12-12-2021 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

36. Students qualifying in state/ national/ international level examinations during the year (eg: NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services) (*documents must be attached*)

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Items | Number of students selected/ qualifying | Name of the student  |
| 2016-17 |  |  |  |
| 2017-18 |  |  |  |
| 2018-19 |  |  |  |
| 2019-20 |  |  |  |
| 2020-21 |  |  |  |

37. Quality improvement strategies adopted by the Department for pedagogic upliftment (within 200 words):

Before introducing a new topic different examples are given to suit the definition. Then related formulae and properties are established and some problems are solved. Then students are given problems to solve in the classroom and home assignments are also given. After completion of each unit class test are taken. The topics, which has 3-D diagram (surface of revolution) are presented by computer for better understanding of students. Classes are made interactive and teachers try to develop an analytical aptitude of students. Departmental seminars and meetings are held where students are given opportunities to deliver lecture on some topics which has been already taught.

38. Distinctiveness of the Department: (Write within 200 words)

Departmental meetings are held where students are given opportunities to speak freely and share their experiences

Departmental seminars are held where students are asked to present any topic related to syllabus

Extracurricular activities are encouraged and students are able to get prizes in different events.

39. Details of student mentoring and method adopted for mentoring (write within 300 words):

Each teachers guide students to prepare projects as prescribe in syllabus for full fillment of BSc. Degree.

Constantly motivating and supporting under performing student to improve their performance in subsequence semesters.

40. Ongoing / completed research project (*document to be attached*):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. Number | Year | Name of the Principal investigator | Name of the co- investigator | Date and Amount sanctioned/received | Status of the project |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

41. Name of Research Guides:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. No. | Name | Name of the University/Institution that offered guide ship and date of award | Ph D/M. Phil | Number of Scholars | Degree awarded or ongoing |
|  |  |  |  |  |  |

42. Faculty as Chairman/members of national/international/state/university committees/ editorial boards/ BoS etc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name of the faculty | Name of the body  | Position of the faculty in the board/committee | Duration/year |
|  |  |  |  |  |

43. Honours, recognition, fellowships received by teachers at State, National, and International level from Government, recognizedbodiesr:

|  |  |  |  |
| --- | --- | --- | --- |
| Year of Award | Name of full time teachers receiving awards from state level, national level,international level | Designation | Name of the award, fellowship, received from Government or recognized bodies |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

44. Workshops/seminar/ programs organized by the department for promoting Institutional/National/Universal values and social responsibilities (*list of participants to be provided*):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. No. | Title of the program | Period from  | Period to | Number of Participants | Total |
| Female | Male |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

45. Details of student enrichment programs/activities (supporting documents must be attached):

* Each year students participate in MTTS programme funded by National Board for Higher Mathematics(NBHM)
* Students participate in Madhaba Mathematics compitition

46. SWOC (Strength, Weakness, Opportunity and Challenge) analysis of the Department. (within 200 words)

 **Strength**-

* The enrolment in Honours course is in increasing trend.
* The enrolment of the students in the general course is very high and results are also good.
* Well connected with the Department of Mathematics, GU and IIT, Guwahati.
* Student involvement in extracurricular activities.

**Weakness-**

* Unable to obtain university rank by the student in the final examination.
* Discontinuation of the Major course because of getting different employments.
* Required Number of faculty members as per UGC guide line is not available.
* No computer laboratory in the department.
* Number of books and journals are not sufficient in the departmental library.
* Two third of the faculties are not involved in active research.

**Opportunity**

* The only science college having Honours in Mathematics in greater Pub Kamrup area.
* IITG and Gauhati University are within the radius of 18 kilometer.

**Challenges**

* The vastness of the Higher Secondary Syllabus and low scoring in the Higher Secondary final examination reduces the number of students opting for higher study of Mathematics.
* Introduction of interdisciplinary PG Course
* Skill development of the students according to the contemporary job market so that dropout may be checked.

.

47. Future plan of the Department (write within 200 words)

* Prepare and encourage students for higher studies in national level institute.
* Involve in research work
* Organize workshop time to time for teacher and students of secondary level of the locality
* Organize national seminar
* Interdisciplinary researchproject
* Prepare students for different competitive examinations