

GOBINDA PRASAD MAHAVIDYALAYA

DEPARTMENT OF MATHEMATICS

THREE YEARS UNDER-GRADUATE COURSE in BA/B.Sc. Mathematics (PROGRAMME) (w.e.f. A.Y. 2022-2023)

AFFILIATED TO

BANKURA UNIVERSITY BANKURA WEST BENGAL PIN 722155

The syllabus of Mathematics for B.A./B.Sc. with Mathematics as a subject using the Choice Based Credit system has been framed in compliance with model syllabus given by UGC. The main objective of framing this new syllabus is to give the students a holistic understanding of the subject giving substantial weightage to both the core content and techniques used in Mathematics. Keeping in mind and in tune with the changing nature of the subject and the target group of pupil, adequate emphasis has been given on new techniques of mapping and understanding of the subject. Mathematics is the study of quantity, structure, space and change. It has very broad scope in science, engineering and social sciences. The syllabus has also been framed in such a way that the basic skills of subject are taught to the students, and everyone might not need to go for higher studies and the scope of securing a job after graduation will increase. While the syllabus is in compliance with UGC model curriculum, some changes have been made to ensure all topics are covered and any of the subjects don't become difficult to be completed in one semester. Similarly, Discipline Electives have been grouped where in student can choose 1 elective from a pool of courses. This has been done to help students learn a cross the semesters in their inter semesters. Evaluation process of each course is carried out through Internal Assessment and End Semester Examination. 10 marks is allotted for Internal Assessment and 40 marks is allotted for End Semester Examination. Question paper of each course for End Semester Examination contains three units. 05 questions to be answered out of 08 questions carrying 02 marks of each in Unit –I. 04 questions to be answered out of 06 questions carrying 05 marks of each in Unit –II and similarly, 01 question to be answered out of 02 questions carrying 10 marks of each in Unit – III. The Bachelor's Degree in B.A./B.Sc. with Mathematics as a subject, is awarded to the students on the basis of knowledge, understanding, skills, attitudes, values and academic achievements sought to be acquired by learners at the end of these programmes. Hence, the course objectives and course specific outcomes of mathematics for these courses are aimed at facilitating the learners to acquire these attributes, keeping in view of their preferences and aspirations for knowledge of mathematics. These syllabi in Mathematics under CBCS are recommended keeping in view of the wide applications of Mathematics in science, engineering, social science, business and a host of other areas. The study of the syllabi will



enable the students to be equipped with the state of the art of the subject and will empower them to get jobs in technological and engineering fields as well as in business, education and healthcare sectors. The textbooks mentioned in references are denotative/demonstrative. The divisions of each paper in units are specified to the context mentioned in courses. These units will help the learners to complete the study of concerned paper in certain periods and prepare them for examinations. Hence, the programme has been chalked out in such manner that there is scope of flexibility and innovation in modifications of prescribed syllabi, teaching-learning methodology, assessment technique of students and knowledge levels, learning outcomes of courses, inclusion of new elective courses subject to availability of experts in across the country.

Programme Objectives (PO):

PO1: Mathematical Reasoning: Application of the mathematical knowledge to the solution of more complex problems in academic and in real life.

PO2: Analyzing Ability: Identification, formulation and solution of a problem which leads to conclusion using basic principles.

PO3: Developing Confidence: Analyzing more complicated problems and getting solutions helps to build up confidence.

PO4: Design/development of more accuracy: Design and development of methods/procedures for solutions of problems which meet the specific queries in industry as well as real life.

PO5: Ability of investigations for more complex problems: Use research-based knowledge and research methods to handle more complex problems.

PO6: Applications of theory based knowledge: Ability to apply the theoretical knowledge including theory, experiment and computational data; analysis and interpretation of data, to get the valid conclusions.

PO7: Ability of Modern tool usage: Application of appropriate techniques, resources, updated software and modern mathematical tools to solve mathematical activities with a good understanding of their limitations.

PO8: Team work practice: Collective efforts for functioning effectively as a member or leader in diverse teams, and/or in multidisciplinary settings.

PO9: Communication skill: Effective Communication skill for scientific activities helps to establish a good researcher with popular face in the scientific community.

PO10: Ability of presentation: Writing the effective reports and design document to give and receive clear instructions/limitations/restrictions for good presentations.

PO11: Life-long learning process: Recognize the needs, proper learning and ability to engage in life-long learning in the broadest context of scientific & technological changes.



PO12: Students undergoing this programme learn to logically question assertions, to recognise patterns and to distinguish between essential and irrelevant aspects of problems. They also share ideas and insights while seeking and benefitting from knowledge and insight of others. This helps them to learn behave responsibly in a rapidly changing interdependent society.

Programme Specific Outcomes (PSO):

The Department of Mathematics offers exciting opportunities to talented students holding a Bachelor's degree for acquiring a rigorous and modern education in mathematics and for pursuing master's degree in both pure and applied mathematics as well as higher studies based on Mathematics. As a part of this Programme, the student has to complete 48 credits of courses.

Career Opportunities:

After completion of this programme, the students are well prepared for higher studies such as M. Sc., M. Tech., Integrated Ph.D. program, any professional degree. This programme will also help students to enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises. Completion of this programme will also enable the learners to join teaching profession in primary and secondary schools. The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning which also helps more professional.

Saritha Mukherjee

HEAD
Dept. of Mathematics
Gobinda Prasad Mahavidyalaya
P.O.- Amarkanani, Bankura

