RAJA PEARY MOHAN COLLEGE

Department of Botany

B.ScHonours in Botany

Programme Specific Outcome, Course Outcome, Programme Outcome

(PSO, CO, PO)

PROGRAMME OUTCOME

INTRODUCTION

The B.Sc. - Botany honours programme is designed to equip students with essential knowledge and technical skills to study plants in a holistic manner. Students would be trained in all areas of plant biology using a unique combination of core and elective papers with significant interdisciplinary components. Students would be exposedt cutting-edge latest technologies that are currently used in the study of plant life forms all over the world, their evolution and interactions with other organisms within the ecosystem. Students would also become aware of the social and environmental significance of plants and their relevance to the national economy.

Choice Based Credit System:

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system
and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

Outline of Choice Based Credit System:

1. Core Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2. Elective Course: Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

Discipline Specific Elective (DSE) Course: Elective courses may be offered by the maindiscipline/subject of study is referred to as Discipline Specific Elective. The University/Institute mayalso offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

Dissertation/Project: An elective course designed to acquire special/advanced knowledge,such as supplement study/support study to a project work, and a candidate studies such a course
on his own with an advisory support by a teacher/faculty member is called dissertation/project.

Generic Elective (GE) Course: An elective course chosen generally from an unrelateddiscipline/subject, with an intention to seek exposure is called a Generic Elective.

P.S.O:-

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3. Ability Enhancement Courses (AEC)/Competency Improvement Courses/Skill Development Courses/Foundation Course: The Ability Enhancement (AE) Courses may be of two kinds: AE Compulsory Course (AECC) and AE Elective Course (AEEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement. They ((i) Environmental Science,(ii) English/MIL Communication) are mandatory for all

disciplines. AEEC courses are value based
and/or skill-based

AE Compulsory Course (AECC): Environmental Science, English Communication/MILCommunication.

AE Elective Course (AEEC): These courses may be chosen from a pool of coursesdesigned to provide value-based and/or skill-based instruction.

Project work/Dissertation is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper..

PROGRAMME SPECIFIC LEARNING OUTCOME BASED CURRICULUM FRAMEWORK:-

Nature and extent of the B.Sc Honours Botany Programme Content: Botany is the broad discipline encompassing various subjects involved with the study of
plants. The B.Sc Botany (H) Programme imparts knowledge on various fields of plant biology through teaching, interactions and practical classes. Present trend has been shifted to frontier areas of plant sciences at the cost of traditional botany. There is need to maintain a balance of the traditional botany and modern science and applied approach. This syllabus has been drafted to enable the learners to prepare them for future employment in various fields including academics
as well as competitive exams.

Students would gain wide knowledge as follow:

1. Diversity of plant forms and microbes their habitat, morphology, and reproduction.
2. Genetics, cell and molecular biology of plants, biochemistry, plant physiology
3. Fungi and disease causing microbes and fungi
4. Embryology, palaeobotany, pallinology, medical ethnobotany
5. Economic value of plants and their use in Biotechnology etc.

C.O. :-

COURSE LEARNING OBJECTIVES

The progamme is designed to equip students with essential knowledge and technical skills to study plants and related subjects in a holistic manner. hteh main aim is to train the learners in all areas of plant biology using appropriate combinations of core and elective papers with significant inter-disciplinary components. Students would be exposed to cutting-edge latest technologies that are currently used in the study of plant life forms, their evolution and interactions with other organisms within the ecosystem in all prime international universities. Students would also become aware of the social and environmental significance of plants and their relevance to the national economy.

COURSE LEARNING OUTCOMES

1. Students will be able to understand and explain different specializations of Botany such as systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics, cell and molecular biology of plants, biotechnology
2. Students will be trained in various analytical techniques of plant biology, use of plants as industrial resources or as support system for human livelihood and will be well versed with the use of transgenic technologies for both basic and applied research in plants.
3. Students will be able to identify various life forms of plants, design and execute experiments related to basic studies on evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology,

anatomy, reproduction, genetics,microbiology, molecular biology, recombinant DNA technology, transgenic technology. Students are also familiarized with the use of bioinformatics tools and databases and in the application of statistics to biological data.

4 Students will acquire core competency in the subject Botany and in allied subject areas.They will be able to use the evidence based comparative studies approach to explain the evolution of organism and understand the genetic diversity and its significance.

5. The students will be able to explain various physiological and metabolic processes uniqueto plants. They would be able to elaborate on the concepts of gene, genome and the cellular and molecular processes of replication, transcription and translation, cell cycle control, RNAProcessing and so on..

6. They will be able to understand adaptation, development and behavior of different forms of life.The students will get an understanding of functioning of ecosystem and tracing the energy pyramids through nutrient flow.

7. Students will be able to demonstrate the experimental techniques and methods in plant.sciences and have innovative research ideas. .

PRINCIPAL
RAJA PEARY MOHAN COLLEGE
UTTARPARA, HOOGHLY