Swarnamoyee Jogendranath Mahavidyalaya
At+P.O.: Amdabad, P.S.: Nandigram, Dist.: Purba Medinipur, PIN 721650

DEPARTMENT OF BOTANY

COURSE OUTCOMES OF COURSES IN BSc MULTIDISCIPLINARY STUDIES WITH BOTANY

3-YEAR UNDERGRADUATE PROGRAMME

w.e.f. 2023-24

BASED ON CCFUP 2023 & NEP 2020

MAJOR COURSES (MJ)

Semester I

MJ A1/B1 Plant Groups and Texa **4 credits**

Upon completion of the course students will gain:

- Understanding of Whittaker's five-kingdom system and its application in classifying organisms, including viruses, bacteria, algae, fungi, and plants.
- Knowledge of the general characteristics, classification systems, and economic importance of viruses, bacteria, algae, and fungi.
- Familiarity with the lifecycle patterns and economic significance of representative species from each group, such as Volvox and Batrachospermum for algae, Rhizopus and Agaricus for fungi, and Cycas and Pinus for gymnosperms.
- Understanding of the general characteristics, classification systems, and economic importance of bryophytes and pteridophytes, including species like Riccia, Anthoceros, Funaria, Lycopodium, Adiantum, and Marsilea.
- Knowledge of paleobotany, including the geological time scale, important events in Earth's history, and the types and significance of plant fossils.

SKILL ENHANCEMENT COURSES (SEC)

Semester I

SEC01 Biofertilizer **3 credits**

Upon completion of the course students will gain:

- Understanding the role and importance of microbial biofertilizers in enhancing soil fertility and plant nutrition.
- Knowledge of different types of microbial biofertilizers, including Rhizobium, Azospirillum, Azotobacter, cyanobacteria, and mycorrhizal fungi, and their respective functions in agriculture.
- Familiarity with the methods of isolation, identification, and mass multiplication of beneficial microbes used as biofertilizers.
- Understanding of the symbiotic relationships between microbes and plants, such as nitrogen-fixing associations and mycorrhizal symbiosis.
- Knowledge of the principles and practices of organic farming, including green manuring, organic fertilizer production, and the avoidance of synthetic chemicals.
- Understanding of waste recycling methods in agriculture, such as composting and vermicomposting, and their role in nutrient cycling and soil health improvement.