**KARIM CITY COLLEGE**

**DEPARTMENT OF BOTANY**

**SYLLABUS DISTRIBUTION**

**AS PER FYUGP, NEP -2022**

 **SEMESTER - VII**

 **Paper Title – Major Paper 19 (MJ-19)**

 **CREDIT-04 [THEORY- 03 + PRACTICAL- 01]**

**Research Methodology**

**DR. AFTAB ALAM KHAN:**

**Course Outcomes:**

At the end of the course the students will be able to,

1. Understand the concept of research and different types of research in the context of biology.

2. Develop laboratory experiment related skills.

3. Develop competence on data collection and process of scientific documentati

4. Analyze the ethical aspects of research

5. Evaluate the different methods of scientific writing and reporting

**Full Mark - 60 Time: - 3 Hrs.**

**Unit I: 12 lectures**

Basic Concepts of Research 12 lectures Research- definition and types of

research (Descriptive vs analytical; applied vs fundamental; quantitative vs

qualitative; conceptual vs empirical). Research methods vs methodology.

Literature-review and its consolidation; Library research; field research;

laboratory research.

**Unit II: 12 lectures**

Data Collection and Documentation of Observations 12 lectures Maintaining a

laboratory record; Tabulation and generation of graphs. Imaging of tissue

specimens and application of scale bars. The art of field photography.

**DR. SHARMILA CHAKRABORTY:**

**Unit III: 10 lectures**

Overview of Biological Problems History; Key biology research areas, Model

organisms in biology (A brief overview): Genetics, Physiology, Biochemistry,

Molecular Biology, Cell Biology, Genomics, Proteomics Transcriptional

regulatory network.

**Unit IV: 10 lectures**

Ethics and Good Practical’s and Art of Scientific Writing Authors,

acknowledgements, reproducibility, plagiarism, Numbers, units, abbreviations

and nomenclature used in scientific writing. Writing references. Power-point

presentation. Poster presentation. Scientific writing and ethics, Introduction to

copyright-academic misconduct/plagiarism.