

**Department of Botany  
Sarat Centenary College**

**CBCS HONOURS**

**Teaching Assignment : 2021--2022**

**Semester-1**

**Core Course I: Microbiology and Phycology**

Name of the teacher : Dr. K. M. Hasib

- Unit 1: Introduction to microbial world
- Unit 2: Viruses
- Unit 3: Bacteria
- Unit 4: Algae
- Unit 5: Cyanophyta and Xanthophyta
- Unit 6: Chlorophyta and Charophyta
- Unit 7: Phaeophyta and Rhodophyta
- Practical

**Core Course II: Archegoniate**

Name of the teacher : Dr. Quazi Taheruzzaman

- Unit 1: Introduction
- Unit 2: Bryophytes
- Unit 3: Type Studies
- Unit 4: Pteridophytes
- Unit 5: Type Studies- Pteridophytes
- Unit 6: Gymnosperms
- Practical

**Semesterr-II**

**Core Course III: Mycology and Phytopathology**

**Name of the teacher : Dr. Quazi Taheruzzaman**

- Unit 1: Introduction to true fungi
- Unit 2: Chytridiomycota and Zygomycota
- Unit 3: Ascomycota
- Unit 4: Basidiomycota
- Unit 5: Allied Fungi
- Unit 7: Symbiotic associations
- Unit 8: Applied Mycology
- Unit 9: Phytopathology
- Practical
- Plant Pathology
- Practical

**Core Course IV: Morphology & Anatomy of Angiosperms**

**Name of the teacher : Dr. K. M. Hasib**

- Unit 1: Introduction and scope of Plant Anatomy
- Unit 2: Structure and Development of Plant Body
- Unit 3: Tissues
- Unit 4: Apical meristems
- Unit 5: Vascular Cambium and Wood
- Unit 6: Adaptive and Protective Systems
- Unit 7: Leaves and Inflorescence

Unit 8: Flower, Fruit and Seed  
Practical

### Semesterr-III

#### **Core Course 5 : Plant Ecology and Phytogeography**

**Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Introduction  
Unit 2: Soil  
Unit 3: Water  
Unit 4: Light, temperature, wind and fire  
Unit 4: Ecosystem  
Unit 6: Population ecology  
Unit 7: Plant communities  
Unit 8: Functional aspects of ecosystem  
Unit 9: Phytogeography  
Practical

#### **Core Course 6 : Plant Systematics**

**Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Significance of Plant systematics  
Unit 2: Taxonomic hierarchy  
Unit 3: Botanical nomenclature  
Unit 4: Systems of classification  
Unit 5: Biometrics, numerical taxonomy and cladistics  
Unit 6: Phylogeny of Angiosperms  
Practical

#### **Core Course 7 : Economic Botany**

**Name of the teacher : Dr. K. M. Hasib**

Unit 1: Origin of Cultivated Plants  
Unit 2: Cereals  
Unit 3: Legumes  
Unit 4: Sources of sugars and starches  
Unit 5: Spices  
Unit 6: Beverages  
Unit 7: Sources of oils and fats Unit 8: Natural Rubber Para-rubber: tapping, processing and uses.  
Unit 9: Drug-yielding plants  
Unit 10: Timber plants.  
Unit 11: Fibers  
Practical

#### **SEC-1**

**Agricultural Botany**

**Name of the teacher : Dr. K. M. Hasib**

Unit: 1 Plant physiology  
Unit: 2 Organic farming  
Unit:3 Plant breeding, Tissue culture and Biotechnology  
Practical

### Semester IV

#### **Core Course 8: Palaeobotany & Palynology**

**Name of the teacher : Dr. Quazi Taheruzzaman**

Unit-1. Introduction  
Unit-2. Definition of fossil  
Unit-3. Introductory idea  
Unit-4. Age of the earth  
Unit-5. Microsporogenesis

Unit-6. Ovules; megasporogenesis.

Unit-7. Pollination

Practical

**Core Course 9 : Biomolecules and Cell Biology**

**Name of the teacher : Dr. K. M. Hasib**

Unit 1: Biomolecules

Carbohydrates, Lipids, Proteins & Nucleic acids

Unit 2: Bioenergetics

Unit 3: Enzymes

Unit4: The cell

Unit 5: Cell wall and plasma membrane

Unit 6: Cell organelles

Unit 7: Cell division

Practical

**Core Course 10 : Molecular Biology**

**Name of the teacher : Dr. K. M. Hasib**

Unit 1: Nucleic acids: Carriers of genetic information

Unit 2. The Structures of DNA and RNA / Genetic Material lectures)

Unit 3: The replication of DNA

Unit 4: Central dogma and genetic code lectures)

Unit 4: Transcription

Unit 5: Processing and modification of RNA

Unit 6: Translation

Practical

**SEC-2: Biofertilizers**

**Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: General account

Unit 2: *Azospirillum*:

Unit 3: Cyanobacteria

Unit 4: Mycorrhiza

Unit 5: Organic farming

**Semester V**

**Core Course 11 : Plant Physiology**

**Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Plant-water relations

Unit 2: Mineral nutrition

Unit 3: Nutrient Uptake

Unit 4: Translocation in the phloem

Unit 5: Plant growth regulators

Unit 6: Physiology of flowering

Unit 7: Phytochrome , cryptochromes and phototropins

Practical

**Core Course 12 : Plant Metabolism**

**Name of the teacher : Dr. K. M. Hasib**

Unit 1: Concept of metabolism

Unit 2: Carbon assimilation

Unit 3: Carbohydrate metabolism

Unit 4: Carbon Oxidation

Unit 5: ATP-Synthesis

Unit 6: Lipid metabolism

Unit 7: Nitrogen metabolism

Practical

**Discipline Specific Elective****DSE 1: Reproductive Biology of Angiosperms****Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Introduction

Unit 2: Reproductive development

Unit 3: Anther and pollen biology

Unit 4: Ovule

Unit 5: Self incompatibility

Unit 6: Embryo, Endosperm and Seed

Units 7: Polyembryony and apomixis

Practical

**DSE- 2 : Biostatistics****Name of the teacher : Dr. K. M. Hasib**

Unit 1: Biostatistics

Unit 2: Collection of data primary and secondary

Unit 3: Measures of central tendency

Unit 4: Correlation

Unit 5: Statistical inference

Practical

**Semester VI****Core Course 13 : Genetics & Plant Breeding****Name of the teacher : Dr. K. M. Hasib**

Unit 1: Mendelian genetics and its extension

Unit 2: Extrachromosomal Inheritance

Unit 4: Variation in chromosome number and structure

Unit 5: Gene mutations

Unit 6: Fine structure of gene

Unit 7. Population and Evolutionary Genetics

Unit-8 : Plant Breeding

Unit 9: Methods of crop improvement

Unit 10: Inbreeding depression and heterosis

Unit 11: Crop improvement and breeding

Practical

**Core Course 14: Plant Biotechnology****Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Plant Tissue Culture

Unit 2: Recombinant DNA technology

Unit 3: Gene Cloning

Unit 4: Methods of gene transfer

Unit 5: Applications of Biotechnology

Practical

**DSE-3 : Plant Evolution and Biodiversity****Name of the teacher : Dr. Quazi Taheruzzaman**

Unit 1: Earliest forms of plant life

Unit 2: Evolutionary trends

Unit 3: Phylogeny of plants

Unit 4: Evolutionary theories:

Unit 5: Plant diversity

Practical

**DSE-4 : Horticultural Practices and Post-Harvest Technology****Name of the teacher : Dr. K. M. Hasib**

Unit 1: Introduction

Unit 2: Ornamental plants  
Unit 3: Fruit and vegetable crops  
Unit 4: Horticultural techniques  
Unit 5: Landscaping and garden design  
Field trip and Practical  
Unit 6: Floriculture  
Unit 8: Disease control and management  
Unit 7: Post-harvest technology  
Unit 9: Horticultural crops - conservation and management  
Field trip and Practical

Botany