

MAHATMA GANDHI UNIVERSITY

B.Sc. BOTANY PROGRAMME

Semester VI

Course 10

BO6B010U

BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS & PALEOBOTANY

(Theory: 54 hours ;Practical :45 hours)

(Theory Credit 3, Practical Credit1)

Course objectives

1. Understand the diversity in habits, habitats and organization of various groups of plants.
2. Understand the evolutionary trends in plants.
3. Identify the anatomical variations in lower groups of plants.
4. Understand the significance of Paleobotany.

BRYOLOGY

(Theory: 16 hours ;Practical :15 hours)

Module 1

2 hours

Introduction, general characters, classification, Evolution of Bryophytes.

Module 2

12 hours

Morphology, anatomy and reproduction in *Riccia*, *Marchantia*, *Anthoceros* and *Funaria*.

Evolution of sporophyte and gametophyte (Development of sex organs not necessary).

Module 3

2 hours

Importance of Bryophytes, Prevention of soil erosion, pollution monitoring and control, Antibiotics, Horticultural importance.

Practical

15 hours

Make micro preparations of the types mentioned. Study vegetative and reproductive structures.

PTERIDOLOGY

(Theory:16 hours ; Practical :18 hours)

Module 1

2 hours

Introduction, general characters, classification, evolution of Pteridophytes.

Module 2

14 hours

Structural organization of sporophyte and gametophyte (devt. of sex organs not necessary) of the following types with special reference to stelar structure, heterospory and seed habit.

1. *Psilotum*
2. *Lycopodium*
3. *Selaginella*
4. *Equisetum*
5. *Pteris*
6. *Marsilea*

Practicals

18 hours

Make micropreparations to study stelar structure and sporangia of the mentioned types.

Identify at sight, noting the morphology.

GYMNOSPERMS

(Theory: 14 hours ; Practical :12 hours)

Module 1

2 hours

Introduction, general characters, classification, origin and evolutionary significance

Module 2

12 hours

Study of morphology, anatomy and reproductive features of *Cycas*, *Pinus* and *Gnetum*.

Practical

12 hours

Study of the morphology, anatomy and reproductive structures of the types mentioned.

PALAEOBOTANY

(Theory: 8 hours)

Module 1

3 hours

Introduction, Study of geological time scale, formation of fossil, fossil types & technique of study, fossil as a fuel.

Module 2

4 hours

Detailed study of

Fossil Pteridophyte : *Rhynia*

Fossil Gymnosperm: *Williamsonia*

Fossil Angiosperm : *Palmoxydon*

Indian contribution to Palaeobotany

1 hour

Reference

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