

B.Sc. Semester – I
Major Course 1- BOTANY (Theory)
BS23MJ1BO1 Algae, Fungi and Plant Anatomy

UNIT: 1. ALGAE

- General characteristics of algae, occurrence, and range of thallus organization (included types in syllabus)
- Classification system of Smith G.M. (included types up to family).
- Economic importance of Algae
- General characters of Cyanophyta and Chlorophyta.
- Life history of *Nostoc* with reference to:
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction
- Life history of *Oedogonium* with reference to:
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction
- General characters of Phaeophyta and Rhodophyta.
- Life history of *Ectocarpus* with reference to:
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction
- Life history of *Batrachospermum* with reference to:
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction.

UNIT: 2. FUNGI

- Introduction & General Characteristics of Fungi
- Classification (G.C. Ainsworth); Thallus Organization; Cell Structure
- Economic importance of fungi.
- General account of Deuteromycotina
- Life history of *Mucor* with reference to,
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction.

- Life history of *Albugo* with reference to,
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction.
- Life history of *Puccinia* with reference to,
 - Systematic position with reasons up to family
 - Habit and Habitat, Vegetative structure and Reproduction.

UNIT: 3. PLANT ANATOMY

- Meristems; Characteristics of Meristems; Classification of Meristem
- Theories of Apical organization- Shoot Apex & Root Apex
- Simple and Complex Tissue system
- Dermal Tissue System
- Epidermal outgrowths (Types of Epidermis, Epidarmal Hairs & glands, Monocot and Dicot stomata)
- Nodal Anatomy

UNIT:4. PLANT ANATOMY

- The Cambium- Types & Functions
- Normal Secondary Growth in Sunflower Root and Stem
- Anomalous Secondary Growth in- *Salvadora* stem; *Dracenea* Stem
- Abnormal secondary growth in fleshy Root- Radish & Beet

Suggested Readings

1. College Botany Vol. I & II Das, Datta, Gangulee and Kar, New Centralbook Agency.
2. Smith, G.M. 1972. *Cryptogamic Botany* Vol. 1 & 2. Tata McGraw Hill PublishingCo. Ltd. New Delhi.
3. A Textbook of Botany vol. 1 & 2 S.N. Pandey, P.S. Trivedi and S.P.Mishra., Vikas Publication House Pvt. Ltd.
4. Algae, Fungi, by Vasishta., S. Chand Pub., New Delhi.
5. Bendre Ashok and Kumar Ashok. A Texbook of Practical Botany vol. I & II. Rastogi Publication Meerut.
6. Bendre Ashok and Kumar Ashok. A Textbook of Practical Botany vol. I & II. Rastogi Publication Meerut.
7. Mauseth, JD, 1988. Plant Anatomy. The Benjamin/ Cummings Publishers, USA.
8. Eames, AJ and Mac Daniels, LH. 1981. An Introduction to Plant Anatomy, Tata McGraw HillPublishing Co. Ltd., NewDelhi.