

Syllabus— B.Sc. (General) 1st Semester

Punjab University

PAPER – A : PLANT DIVERSITY

Max. Marks : 75

Objective. The basic objective of this paper is to make students aware about the diversity in various life forms of plant kingdom. It gives an idea about the most simple group of plants. A systematic study of algae and fungi included in this group would familiarize students not only with structural differentiation but also provide an insight about the heterotrophic and autotrophic modes of nutrition in the plant kingdom. This paper in fact forms the basis of any advance study in Botany.

Teaching Methodology. Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

Bacteria : Salient features, types and cell structure.

Algae : General Characters; systematic position, structure and life history of *Oscillatoria* (Cyanophyceae) *Volvox*, *Cladophora* (Chlorophyceae); *Vaucheria* (Xanthophyceae).

UNIT-II

Systematic Position, structure and life history of *Dictyota* (Phaeophyceae); *Batrachospermum* (Rhodophyceae) and economic importance of algae.

UNIT-III

Fungi : General characters; systematic position, structure and life history of *Albugo* (White rust of crucifers : *Albugo candida*), *Rhizopus* and *Saccharomyces*.

UNIT-IV

Systematic position, structure and life history of *Agaricus*, *Ustilago* (Loose smut of wheat; *Ustilago tritici*), *Puccinia* (Black rust of wheat : *Puccinia graminis tritici*), *Colletotrichum* (Red rot of sugarcane : *Colletotrichum falcatum*); general account of Lichens and their economic importance.