

B.Sc. Forensic Science: Semester-I	
FST108: Botany-I	
Teaching Scheme	Examination Scheme
Lectures: 3 hrs/Week	Class Test -12 Marks
Tutorials: 1 hr/Week	Teachers Assessment – 6 Marks
Credits: 4	Attendance – 12 Marks
	End Semester Exam – 70 marks

Course outcomes:

The student at the completion of the course will be able to:

- Develop understanding about the classification and diversity of different microbes including viruses, Algae, Fungi & Lichens & their economic importance.
- Develop conceptual skill about identifying microbes, pathogens, biofertilizers & lichens.
- Gain knowledge about developing commercial enterprise of microbial products.
- Learn host –pathogen relationship and disease management.
- Learn Presentation skills (oral & writing) in life sciences by usage of computer of computer & multimedia
- Gain Knowledge about uses of microbes in various fields.
- Understand the structure and reproduction of certain selected bacteria algae, fungi and lichens
- Gain Knowledge about the economic values of this lower group of plant community.

Unit I – Microbial world

- Cell structure of Eukaryotic and prokaryotic cells, Gram positive and Gram negative bacteria, Structure of a bacteria; Bacterial Chemotaxis and Quorum sensing, Bacterial Growth curve, factors affecting growth of microbes; measurement of growth; Batch culture, fed batch culture and continuous culture; Synchronous growth of microbes; Sporulation and reproduction and recombination in bacteria;
- Viruses, general characteristics, viral culture, Structure of viruses, Bacteriophages, Structure of T4 & λ -phage; Lytic and Lysogenic cycles, viroids, Prions & myco& phytoplasma, Actinomycetes & plasmids and their economic uses.

Unit II – Phycology

- Range of thallus organization in Algae, Pigments, Reserve food –Reproduction – Classification and life cycle of – Nostoc; Chlorella, Volvox, Oedogonium, Chara; Sargassum, Ectocarpus, Polysiphonia.
- Economic importance of algae - Role of algae in soil fertility- biofertilizer – Nitrogen fixation- Symbiosis; Commercial products of algae –biofuel, Agar.

Unit III – Mycology

- General characteristics, nutrition, life cycle, Economic importance of Fungi, Classification upto class. Distinguishing characters of Myxomycotina -General characters. Zygomycotina – Rhizopus, Ascomycotina -Saccharomyces, Penicillium, Peziza, Basidiomycotina- Ustilago, Puccinia, Agaricus; Deuteromycotina – Fusarium, Alternaria, Heterothallism, Physiological specialization, Heterokaryosis & Parasexuality

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