

Theory:**Course Outline:**

Comparative study of the different plant groups with representative examples, including Viruses, Bacteria, Algae, Fungi, Lichens, Bryophytes, Pteridophytes, Gymnosperms and Angiosperm

Course Detail:

1. General account including morphology, habitat, reproduction and economic signification of:-
2. Viruses (General Characteristics)
3. Bacteria and Cyanobacteria
4. Algae: *Spirogyra*, *Pinnularia* and *Polysiphonia*
5. Fungi: *Mucor*, *Penicillium*, *Ustilago*, *Puccinia* and *Agaricus*
6. Lichens
7. Bryophytes: *Riccia*, *Anthoceros*, *Funaria*
8. Pteridophytes: Major Groups and their Affinities, Psilopsida (*Psilotum*), Lycopsida (*Selaginella*), Sphenopsida (*Equisetum*), Pteropsida (*Marsilea*), Seed Habit.
9. Gymnosperms: (*Cycas*, *Pinus* and *Ephedra*).
10. Angiosperms: (Dicot and Monocot).

Practicals:

1. Culturing and staining of microbial types.
2. Maintenance and preservation of cultures of microbes (Bacteria / Cyanobacteria / Algae / Fungi)
3. Identification of various types mentioned in the syllabus from fresh / preserved specimens and prepared slides.
4. Study of morphology and reproductive structures of the types mentioned in theory (Specimens/ prepared slides)

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos/films will be shown on occasion.

Assignments

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination

Sessional Work: 25 marks

Midterm Exam: 35 marks

Final Exam: 40 marks

Recommended Readings:

1. Lee, E. R. (2007). Phycology. (4th Ed.) Cambridge University Press U.K.
2. Sambamurty, A.V.S.S. (2005). A Textbook of Bryophytes, Pteridophytes, Gymnosperms and Paleobotany. I.K. International Pvt. Ltd. New Delhi, Bangalore, Mumbai. 573 pp.
3. Agrios, G.N. (2004). Plant Pathology. (8th Ed.), Academic Press London.
4. Prescott, L.M., Harley, J.P. and Klein, A.D. (2004). Microbiology, (3rd Ed.) W.M. C. Brown Publishers.
5. Mauseth. J.D. (2003). Botany: An Introduction to Plant Biology. (3rd Ed.) Jones & Bartlett Pub.UK.
6. Biswas, C, and Johri, B.M. (1999). The Gymnosperms. Narosa Publishing House. New Delhi and London.
7. Alexopoulos, C.J., Mims, C.W. and Blackwell, M. (1996). Introductory Mycology. (4th Ed.) John Wiley and Sons, UK.