

TITLE: BOTANY-I (PLANT DIVERSITY)

CREDIT HOURS: 3

Syllabus Outline:

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

Plant Diversity:

Comparative study of life form, structure, reproduction and economic signification of.

1. Viruses (RNA and DNA types) with special reference to Tobacco Mosaic Virus (TMV).
2. Bacteria and Cyanobacteria (Nostoc, Oscillatoria)
3. Algae; (Chlamydomonas, Spirogyra, Chara, Pinnularia, Ectocarpus and Palysiphonia)
4. Fungi (*Mucor*, *Penicillium*, *Phyllactinia*, *Ustilago*, *Puccinia* and *Agaricus*), their effects on crop production and industrial applications
5. Lichens (Phycia)
6. Bryophytes
 - a. Riccia
 - b. Ant hoceros
 - c. Funaria
7. Pteridophytes
 - a. Fossils and fossilization
 - b. Psilopsida (Psiatum)
 - c. Lycopsida (Selaginella)
 - d. Sphenopsida (Equisetum)
 - e. Pteropsida (Marsilea)
 - f. Seed Habit
8. Gymnosperms (Cycas, Pinus, Ephedra)

Evaluation Criteria

Examination	Type	Marks
Internal Examination	Sessional Work	15%
	Mid-Semester	25%
External Examination	Final Semester	60%

Books Recommended:

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. 1K. International Pvt. Ltd. New Delhi, Bangalore, Mumbai. 573 P,
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: and Introduction to Plant Biology (3rd Ed.) Jones & Bartlett Pub.UK.
6. Biswas, C, and John, G.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.

TITLE: BOTANY-LAB-I (PLANT DIVERSITY)**CREDIT HOURS: 1****Syllabus Outline:**

Culturing, preservation and staining of microorganisms. Study of morphology and reproductive structures of the plant types mentioned in theory. Identification of various plant types mentioned from prepared slides and fresh specimens.

Syllabus:

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

Assessment Strategies (Practical) :

The student will be assessed according to the following criteria
Evaluation Criteria

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Internal Examination	Sessional Work	15%
	Mid-Semester	25%
External Examination	Final Semester	60%

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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 Pale botany. I.K. International Pvt. Ltd. New Delhi, Bangalore, Mumbai.
3. Agrios, G.N. (2004). Plant Pathology (8th Ed.), Academic Press London.
4. Nlauseth. J.D. (2003). Botany and Introduction to Plant Biology (3rd Ed.) Jones & Bartlett Pub UK.
5. Prescott, L.M., Harley, J.P. and Klein, A.D. (2004).Microbiology, (3rd Ed.) WM. C. Brown Publishers.
6. Giswas, C, and John, G.M. (1999).The Gymnosperm&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.