

Life Science Lab-III

Course Code: BEB253

Credit: 01 (L-4, T-4, P-2)

Contact Hours 30

MC: 50

Course Outline:

Ecological methods:

1. Use of pH meter for estimation of pH in water and soil samples
2. Study of micro organism of water and soil samples.
3. Determination of dissolved CO_2 , free CO_2 of water.
4. Zoo-plankton count by standard methods.
5. Report on Environmental audit Local Biodiversity Record (in group/individual of a particular area) – at least two records of faunal diversity along with ecological notes and photographic documentations in two seasons should be done. For example: butterfly community or bird community of a particular area.
6. Field work assessment Submission of field study report on any two of the following:
 - a. Ecosystem and its biodiversity assessment. (Any suitable ecosystem) (Various diversity indices with explanation must be presented).
 - b. Estuarine bheri/freshwater fish farm (species cultured/reared, whether exotic/ornamental fishes are cultured, viability of the farm, cost benefit accounts, impact on local people and prospect in the specific area)

Evolutionary Biology:

- 1: General discussion, distinguishing characters and classification of respective Phylum should be taken into consideration.
- 2: In Laboratory Note Book scheme of classification of all Phylum should be written before identification Key making with the specimens both from non-chordate (e.g., insects) and chordates (e.g., fishes) Identification with reasons of the following Museum specimens should be done.
- 3: Study of chick embryological slides in different phases of incubation.

Practical Work:

1. Specimens and slides of the Marsilea petiole, Marsilia Sporangium, Selaginella stem, Selaginella cone.
2. Specimens and slides of cycas leaflet, pinus needle, pinus stem and Ephedra stem.
3. To study the plant specimens of Pteridophytes (Lycopodium, Selaginella,.....).
4. Plants studied: Euphorbia hirta, Ocimum sanctum, Ageratum conyzoides, Thevetia peruviana, Calotropis procera, Ipomoea aquatic, Solanum nigrum.
5. Embryology of the pollen grains.
6. T.S. of anther of angiospermic flowers



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