

SKILL ENHANCEMENT COURSE (SEC)
BZO: S 804: BIOTECHNIQUES
(CREDITS: THEORY-2)

SEMESTER – VIII

LECTURES: 30

Unit 1

Study of animal house

Different laboratory animals, set up and maintenance of animal house, breeding techniques, care of normal and experimental animals.

Unit 2

Bio-assays

Definition and criteria of reliability; Chemical assays; Biological assays – *in vivo and vitro* assays. Histochemical and Cytochemical techniques

Unit 3

Principles and uses of analytical instruments

Balances, pH meter, calorimeter, Hot plate spectrophotometer, centrifuge, ultracentrifuge.

Unit 4

Microscopy

Principle of light transmission, electron, phase-contrast, fluorescence, electron, confocal, scanning and transmission electron microscopy.

Unit 5

Electrophoresis and PCR

Agarose gel electrophoresis, SDS PAGE, PCR, Real-time PCR

Lab Course: BZO P- 851

1. Identification of mammalian fauna, avian fauna, herpeto-fauna through direct and indirect evidences seen on a field trip to a wildlife conservation site.
 2. Demonstration of basic equipment needed in wildlife studies use, care and maintenance (Compass, Binoculars, Spotting scope, Range Finders, Global Positioning System, Various types of Cameras and lenses).
 3. Familiarization and study of animal evidences in the field: Identification of animals through pug marks, hoof marks, scats, nests and antlers.
 4. Demonstration of different field techniques for flora and fauna: PCQM.
 5. Trail / transect monitoring for abundance and diversity estimation of mammals and bird (direct and indirect evidences).
 6. Identification of big cats: Lion, tiger, panther, cheetah, leopard and jaguar.
 7. A report based on a visit to National Park/Wildlife Sanctuary/Biodiversity Park or any other wildlife conservation site.
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