

DISCIPLINE SPECIFIC ELECTIVES (DSE-4): Wildlife Conservation & Management

Zoo-DSE-4

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/ Practice		
Wildlife Conservation & Management Zoo-DSE-4	04	03	00	01	Passed Class 12 th	NIL

Learning Objectives

The learning objectives of this course are as follows:

- To acquaint the students with varied aspects of wildlife conservation, including its importance, major threats, and management of their habitats and populations.
- The emphasis will be on developing interest and invoking a sense of responsibility among students towards wildlife conservation.
- The course also explores different techniques, perspectives, and approaches to both identify and achieve wildlife management goals.
- To motivate students to pursue a career in the field of wildlife conservation and management.

Learning Outcomes

By studying this course, students will be able to:

- Appreciate wildlife in general and realize its conservation and management in particular.
- Better understand the application of the principles of ecology and animal behaviour to formulate strategies for the management of wildlife populations and their habitats.
- Understand the management practices required to achieve a healthy ecosystem for wildlife population along with emphasis on conservation and restoration.
- comprehend the key factors for loss of wildlife and important strategies for their in situ and ex situ conservation.
- recognize the techniques for estimation, remote sensing and Global Position Tracking for wildlife.
- gain knowledge about the wildlife diseases and the quarantine policies.
- know about the Protected Area Networks and Ecotourism in India.
- Perform critical thinking, literature review; scientific writing as well as presentations; and participation in citizen science initiatives with reference to wildlife.

SYLLABUS OF DSE-4

UNIT-1: Introduction to Wildlife

3 hrs

Values of wildlife - positive and negative; Conservation ethics; Importance of conservation; Causes of depletion.

UNIT-2: Evaluation and Management of Wildlife

9 hrs

Habitat analysis: a) Physical parameters: Topography, Geology, Soil and water; b) Biological Parameters: food, cover, forage; Standard evaluation procedures: Bio-telemetry, Remotesensing and GIS.

UNIT- 3: Management of Habitats

9 hrs

Setting back succession: Grazing, prescribed fire, mechanical treatment and selective herbicide application; Advancing the successional process and cover construction; Preservation of genetic diversity; Restoration of degraded habitats.

UNIT- 4: Population Estimation

6 hrs

Faecal analysis of ungulates and carnivores: Faecal samples, slide preparation and hair identification; Pug marks and census methods.

UNIT- 5: Wildlife Health and Rehabilitation

9 hrs

Care of injured and diseased animal; Quarantine; Common diseases of wild animals: Zoonosis (*Ebola* and *Salmonella*), Rabies, Foot and Mouth Disease, *Mycobacterium* TB, Bovine and Avian Flu (Any 3 in detail).

UNIT- 6: Protected Areas and their management

9 hrs

National parks and Sanctuaries; Biosphere reserves; Conservation and Community reserve; Important features of Protected Areas in India; Project Tiger- conservation and management challenges in Tiger reserves; Human-wildlife conflict; Eco-tourism.

Practical

30 hrs

(Laboratory periods: 15 classes of 2 hours each)

1. 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).
2. Familiarization and study of animal evidences in the field: Identification of animals through pugmarks, hoof marks and scats.
3. Trail/ transect monitoring for abundance and diversity estimation of mammals and bird (direct and indirect evidences).
4. Identification of Big cats: Lion, Tiger, Cheetah, Leopard and Jaguar.
5. Project Report: Identification of mammalian fauna, avian fauna, herpeto-fauna through direct and indirect evidences seen on a field trip to a National Park/Wildlife

Sanctuary/Biodiversity Park or any other wildlife conservation site.

Essential/recommended readings:

1. Hudson, P.J., Rizzoli, A., Grenfell, B.T. Heestrbeek, H. and Dobson, A.P. (2002) The Ecology of Wildlife Diseases. Oxford University Press, Oxford.
2. Banerjee, K. (2002) Biodiversity Conservation in Managed and Protected Areas. Agrobios, India.
3. Kenneth Anderson (2000) The Kenneth Anderson Omnibus Vol I. Rupa Publications.
4. Jim Corbett. (2017) Man Eaters of Kumaon. Om Books International.
5. Saha, G.K. and Mazumdar, S. (2017) Wildlife Biology: An Indian Perspective. PH Learning Pvt. Ltd. ISBN: 8120353137, 978-812035313.
6. Sinclair, A.R.E., Fryxell, J.M. and Caughley, G. (2006) Wildlife Ecology, Conservation and Management. Wiley-Blackwell, Oxford, UK.
7. Singh, S.K. (2005) Text Book of Wildlife Management. IBDC, Lucknow.

Suggested readings:

1. Primack, R.B. (1998). Essentials of Conservation Biology. Sinauer Associates, Inc. Sunderland, MA.
2. Hossetti, B.B. (1997). Concepts in Wildlife Management. Daya Publishing House, Delhi.
3. Sharma, B.D. (1999) Indian Wildlife Resources Ecology and Development. Daya Publishing House, Delhi.