

ST. JOSEPH'S COLLEGE FOR WOMEN (A), VISAKHAPATNAM
Four Year – B.Sc. (Hons), Semester – VII
ZOOLOGY

WILD LIFE AND CONSERVATION BIOLOGY

Code: Z 7503(3)

Time:4HRS/WEEK

Max Marks:100

Learning Objectives:

Enable the Students to

1. Understand the diverse wildlife wealth of India, recognize threatened species, and gain insight into wildlife conservation approaches.
2. Comprehend the concepts of protected areas such as National Parks, Sanctuaries, and Biosphere Reserves, and their core-buffer structures.
3. Understand the management of wildlife and conservation strategies.
4. Gain knowledge about the National and international efforts and organizations for conservation of wildlife.
5. To acquire knowledge on human-wildlife interactions and strategies to mitigate conflicts.

Learning Outcomes:

Students will be able to:

1. Develop an overview of India's wildlife diversity and the significance of wildlife conservation and management for ecological balance.
2. Gain insights into the factors leading to wildlife depletion and able to assess various approaches to wildlife conservation.
3. Comprehend the concepts of protected areas, including National Parks, Sanctuaries, and Biosphere Reserves.
4. Gain insight/ summarize the policies and laws in wildlife management.
5. Develop empathy towards animals.

I. Syllabus

Unit 1

1.1 Wildlife in India- Wildlife wealth of India & threatened wildlife.

1.2 Reasons for wildlife depletion in India. Wildlife conservation approaches and limitations. National and State mammals and birds of India.

1.3 Wild life Habitat- Protected Area concept: National Parks, Sanctuaries and Biosphere Reserves, cores and Buffers, Nodes and corridors. Community Reserve and conservation Reserves.

Unit 2

- 2.1 Management of Wildlife- Red Data Book and Conservation status (endangered, vulnerable, rare, threatened and near threatened species)-definitions.
- 2.2 Distribution, status. Habitat utilization pattern, threats to survival of Slender Loris, Musk deer, Great Indian Bustard, Olive Ridley turtle.
- 2.3 Wild life Trade & legislation- Assessment, documentation, Prevention of trade. Policies and laws in Wild life management (national) and ethics.

Unit 3

- 3.1 Biodiversity extinction and conservation approaches- Perspectives and Expressions. Identification and prioritization of Ecologically sensitive area (ESA). Coarse filter and fine filter approaches. Regional and National approaches for biodiversity conservation.
- 3.2 Theory and analysis of Conservation of populations- Stochastic perturbations - Environmental, Demographic, spatial and genetic stochasticity.
- 3.3 Population viability analysis-conceptual foundation, uses of PVA models.

Unit 4

- 4.1 National and International efforts for conservation- Information on CITES, IUCN, CBD
- 4.2 International agreements for conserving marine life. Convention on wetlands of International Importance (Ramsar convention). Important projects for the conservation of endangered species in India (Project Tiger, Project Elephant, Gir Lion, Project Deer, Sea turtle project).
- 4.3 Human impact on Terrestrial and Aquatic resources. Conservation of invertebrates with special reference to corals and butterflies. Overview of conservation of Forest & Grassland resources

Unit 5

- 5.1 Human – wildlife interactions
- 5.2 Strategies to reduce human-wildlife interactions
- 5.3 Role of Government and NGOs in controlling human-wildlife interactions Socio-economic issues related to human-wildlife interactions.

II. Reference Books

- M. Kato. The Biology of Biodiversity, Springer.
- J.C. Avise. Molecular Markers, Natural History and Evolution, Chapman & Hall, New York.
- E.O. Wilson. Biodiversity, Academic Press, Washington.
- G.G. Simpson. Principle of animal taxonomy, Oxford IBH Publishing Company.
- E. Mayer. Elements of Taxonomy.
- E.O. Wilson. The Diversity of Life (The College Edition), W.W. Northem & Co.
- B.K. Tikadar. Threatened Animals of India, ZSI Publication, Calcutta.

III. Suggested activities:

Visit to nearby biosphere reserve/Sanctuary/National Park/ Sea Shore/Zoo

Visit to local Ramsar site and report preparation with pics

Celebrate World wetland Day February 2nd

Celebrate World Wildlife Day March 3rd

Celebrate World Sparrow Day March 20th

Celebrate Wildlife week from October 1st to October 7- Conduct Quiz, photo-exhibition, essay writing competitions ..to create awareness among students and public.
