



बिरसा मुंडा ट्रायबल युनिवर्सिटी Birsā Mūṇḍā Drāyabala Yūnīvārsīṭī

राजपिपला, जि. नर्मदा Rajpipla, Dist. Narmada

Established by Tribal Development Department, Govt. of Gujarat

School of Science B.Sc. (Zoology) Programme

Subject Code & Name: BS06MIZOO1 Wildlife Conservation and Management

Teaching and Evaluation Scheme:

Teaching Scheme				Examination Scheme			
Credits				Component Weightage			
				CCE		SEE	
L	T	P	Total	TH	PWE	TH	PWE
2	-	2	4	25 %	25 %	25 %	25 %

Programme Name	B.Sc. Zoology
Semester	VI
Course Code	BS06MIZOO1
Course Title	Wildlife Conservation and Management
Course Content Type (Th./Pr.)	Theory + Practical
Course Credit	4
Sessions + Lab. Per week	2 + 4
Total Teaching/Lab. Hours	60 Hours
* 2 Laboratory = 1 Session	

Learning Objectives

- To provide knowledge of wildlife diversity, conservation principles and management practices.
- To understand threats to wildlife and conservation strategies at national and global levels.
- To develop skills in wildlife monitoring, habitat assessment and conservation planning.

Prerequisites (if any)

- Students should have a basic knowledge of animal body systems.
- They should possess an understanding of natural selection, speciation and adaptive radiation.
- One should understand physical geography, wildlife laws and the physiological, morphological and behavioral traits of animals.

Learning Outcomes

On the Completion of this course, students will able to:

- Student learns about the importance of wildlife biology and conservation in India.
- Biodiversity of Indian animals, threats to wildlife, conservation methods, and environmental laws.
- It also addresses animal distribution, biodiversity, and survival behaviors.





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Detailed Contents		
UNIT	TOPIC/SUB-TOPIC	TEACHING HOURS
I	Introduction to Wildlife and Conservation • Definition, Scope and Significance of Wildlife Biology • History of Wildlife Conservation in India Wildlife Diversity • Major Wildlife Fauna of India: Mammals, Birds, Reptiles, Amphibians and Fishes • Endemic, Endangered, Vulnerable and Extinct Species • IUCN Red List Categories and Red Data Book Threats to Wildlife • Habitat Destruction and Fragmentation • Deforestation and Urbanization • Climate Change and Pollution • Poaching, Illegal Wildlife Trade and Invasive Species Conservation Strategies • In-Situ Conservation: National Parks, Wildlife Sanctuaries, Biosphere Reserves • Ex-Situ Conservation: Zoos, Captive Breeding, Gene Banks, Cryopreservation	15
II	Wildlife Management Wildlife Monitoring Techniques • Wildlife census methods: Direct and Indirect methods • Line transect, Point Count, Camera Trapping, Pugmark Analysis • Radio telemetry and GIS applications Human-Wildlife Conflict • Causes and impacts • Conflict management and Mitigation Strategies • Case studies from India Wildlife Legislation and Conservation Projects • Wildlife Protection Act, 1972 • Forest Conservation Act, 1980 • Biological Diversity Act, 2002 • Project Tiger, Project Elephant, Asiatic Lion Conservation, Crocodile Conservation Conservation Programmes in India • Project Tiger • Project Elephant • Asiatic Lion Conservation Project • Crocodile Breeding Programme • Vulture Conservation Programme	15





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Practicals

List of Practical (Practical concepts were explained with the help of charts, models, and multimedia resources.)

1. Study the major wildlife fauna of India including mammals, birds, reptiles, amphibians, and fishes through charts/models/specimens.
2. Study endemic, endangered, vulnerable and extinct species of India using case studies and charts.
3. Study important national parks, wildlife sanctuaries, and biosphere reserves of India using maps.
4. Study in-situ conservation methods through case studies/demonstration.
5. Study ex-situ conservation methods including zoos, captive breeding, gene banks and cryopreservation through multimedia.
6. Study the causes and effects of habitat destruction and fragmentation through case studies.
7. Study poaching, illegal wildlife trade and invasive species through documentaries/case records.
8. Study common threatened species of Gujarat and India through multimedia presentations.
9. Study wildlife census methods: Direct and Indirect methods.
10. Study line transect and point count methods through field demonstration.
11. Study pugmark analysis for wildlife identification.
12. Study causes and impacts of human-wildlife conflict using case studies.

Text Book(s)

1. Wildlife Management and Conservation by B.K. Tyagi
2. Biodiversity: Conservation and Management by P.C. Joshi and Namita Joshi
3. Fundamentals of Ecology by Eugene Odum & Gary W. Barrett – Cengage Learning
4. Wildlife Ecology, Conservation and Management by Anthony R.E. et al., Wiley-Blackwell
5. A Textbook of Environmental Studies by Erach Bharucha, Universities Press
6. Wildlife Biology by N. Arumugam, Saras Publications.
7. Applied Zoology by N. Arumugam, Saras Publications.
8. A Textbook of Environmental Studies by Erach Bharucha, Universities Press
9. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology by P.S. Verma and V.K. Agarwal





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Reference Books

1. Conservation Biology by Richard B. Primack, Sinauer Associates / Oxford University Press
2. The Diversity of Life by Edward O. Wilson, Belknap Press of Harvard University Press
3. Wildlife Management by Rajesh Gopal, Natraj Publishers
4. The Wildlife Techniques Manual by Nova J. Silvy, Johns Hopkins University Press
5. Animal Behavior by John Alcock, Sinauer Associates / Oxford University Press
6. Principles of Animal Ecology by W.C. Allee, et al., W.B. Saunders Co.
7. Biogeography by C.B. Cox & Peter D. Moore, Wiley-Blackwell

Web Resources

1. Society for Conservation Biology: <https://conbio.org/>
2. U.S. Fish & Wildlife Service Learning Resources: <https://www.fws.gov/training/learning-resources>
3. The Wildlife Society: <https://wildlife.org/>
4. Conservation International: <https://www.conservation.org/>
5. Coursera (Ecology & Conservation): <https://www.coursera.org/browse/life-sciences/ecology>
6. The Biodiversity Heritage Library: <https://www.biodiversitylibrary.org/>
7. Encyclopedia of Life (Distribution Maps): <https://eol.org/>
8. Global Biodiversity Information Facility (GBIF): <https://www.gbif.org/>
9. Biogeography.org (International Biogeography Society): <https://www.biogeography.org/>
10. Nature Education (Scitable): <https://www.nature.com/scitable>
11. HHMI BioInteractive: <https://www.biointeractive.org/>
12. Khan Academy (Biology - Evolution & Adaptation): <https://www.khanacademy.org/science/biology>
13. ZSL (Zoological Society of London) Learning: <https://www.zsl.org/education/>

L:: Lecture, **T::** Tutorial, **P::** Practical

CCE:: Continuous and Comprehensive Evaluation

(CCE Theory includes Mid Semester Examination, Assignment, MCQ quizzes, Seminar, Reflective notes, class participation, case analysis and presentation, slip tests (announced/surprised), attendance etc. or any combination of these)

PWE:: Practical Work Examination

(PWE includes Laboratory practical work, project work, viva simulation exercise work etc.)

SEE:: Semester End Evaluation

