St. Aloysius College (Autonomous), Jabalpur
Department of Higher Education, Govt. of M.P.

Under Graduate Syllabus for B.Sc. (Bio)

As recommended by Central board of Studies in Zoology

Class - B.Sc. III Year

(Session 2023-24)
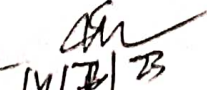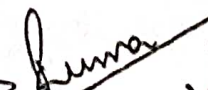
Theory Paper
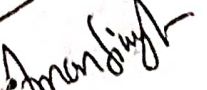
Part A Introduction			
Program: Degree	Class: B.Sc	Year: III	Session :2023-24
Subject: Zoology			
1	Course Code	S3-ZOOL2D	
2	Course Title	Wild Life Conservation and Management (Paper-II) Group-A	
3	Course Type (Core Course /Elective/Generic Elective/ Vocational/...)	Discipline Specific Elective (DSE)	
4	Pre-requisite (if any)	To study this course, a student must have had the subject Zoology in Diploma.	
5	Course Learning Outcome (CLO)	Upon completion of the course, students will 1. Identify and realize the values of wild animals, forests and the rare, threatened and endangered species of wildlife. 2. Gain knowledge of conservation of forest and wild animals (Ex situ and In situ) 3. Identify the role of local and tribal communities in protected areas. 4. Know the opportunities of employment in the field of wild life. 5. Develop an understanding for wise use and management of natural resources.	
6	Credit Value	4	
7	Total Marks	Max. Marks : 30+70	Min. Passing Marks – 35

Part B- Content of the Course

Total No. of Lectures – Tutorials – Practical (2 hour per week): L-T-P: 60

Unit	Topic	No. of Lectures
I	1. Introduction to Wildlife and Conservation 1.1 Historical background of wildlife. 1.2 Values of wild life and valuable products of forests and wild animals. 1.3 Important wild animals of India. 1.4 Causes of extinction of forests and wild life. (a) Direct destruction (b) Indirect destruction 1.5 Importance and necessity of conservation of wild life and forests. 1.6 Principles of conservation and management.	12

		1.7 Conservation ethics and World wildlife conservation strategies.	
		Keywords/Tags: Wildlife, Extinction, Values, Conservation, Strategy.	
II		1. Wild Life Conservation Measures in India	12
		1.1 Indian board for wildlife and wild life protection act. 1.2 Indian forest laws and their amendments, Indian forest act, Forest conservation act and Forest legislation of India.	
		1.3 National organizations - Govt. and non-Govt. organisation for wildlife conservation.	
		1.4 International organizations - IUCN, WWF.	
		1.5 Wild life conservation measures. Ex situ conservation - Rehabilitation centers in situ conservation - Protected Areas.	
		1.6 Important features, Flora and Fauna of protected areas. 1.7 National Parks, Sanctuaries and Biosphere Reserves of India.	
		1.8 Methods of conservation and tracking of large territorial vertebrates- camera traps, mark and recapture techniques, trail camera, computer vision.	
		2. Wildlife and important Tiger Reserves of M.P.	
		2.1 Management challenges in Tiger Reserves.	
		Keywords/Tags: Organizations', National parks, Protected areas, Methods, Large territorial animals.	
III		1. Threatened and Endangered Species	12
		1.1 Major threats to wild life.	
		1.2 Concept of threatened species.	
		1.3 IUCN categories of threatened plants and animals - Endangered, Vulnerable, Rare, Threatened, Out of danger, Intermediate species.	
		1.4 Special projects for endangered species - Project Tiger, Gir Lion Project.	
		1.5 Musk Deer Project, Crocodile Project and Elephant Project.	
		1.6 Biotelemetry and its utility in wildlife.	
		Keywords/Tags: Threats, Projects, Endangered, IUCN Categories, Biotelemetry.	
IV		1. Population Estimation	12
		1.1 Estimation and Computation of Population density, Natality, Birth rate, Mortality and sex ratio.	
		1.2 Census method for density estimation of wild animals-	
		1.3 Direct count method- Vehicle transect or road count method, King's census	
		1.4 Indirect count method - Identification of Pug Marks, Hoof marks, Hair, Scats, Pellet groups, Nest, Antlers	
		1.5 Faecal analysis of Ungulates and Carnivores.	
		1.6 Management planning of wildlife in protected areas, estimation of carrying capacity.	
		2. Ecotourism / Wild life Tourism in forests	
		2.1 Anthropogenic activities and livelihood of local communities in Reserved Forest Areas.	

		Keywords/Tags: Population, Estimation, Pug Marks, Ecotourism, Local Communities.	

V	1	Management of Habitat and Animal Health
		1.1 Care of injured and diseased animal. Equipment for locating, capture, handling and treatment of injured animal.
		1.2 Common diseases of wild animals.
		1.3 Translocation of animals, Quarantine measures and Quarantine act.
		1.4 Importance of forests, their conservation measures and management.
		1.5 Remote sensing and GIS.
		    Food, Forage, Cover, Browse and Cover Estimation.
		1.6 Role of Tribal Communities in Management of Forest areas.
		    Management challenges in Tiger Reserves.
		1.7 Elementary Idea of wild life forensics.
		1.8 Opportunities of employment in Reserve Forest Areas.
		
		Keywords/Tags: Diseases, Remote sensing, GIS, Translocation, Quarantine act, Employment.
			14

Part C – Leaning Resources

Text Book , Reference Books , Other resources

1 Babel. B.L (Forest & Wildlife protection), Hindi, 4th edn., Eastern Book Company, 2014.

2. Kotwal, P.C. and Gopal, Rajesh. Radio-telemetry and field observations on territoriality of tigers in Kanha National Park. Vol. 22: No. 4 Oct.-Dec. 1995.

3. Kotwal, P.C. Immobilisation of wild animals-Equipments, Drugs and Techniques. Kanha National Park and Project Tiger, Mandla, M.P., India. 1982.

4. Kotwal, P.C., Evaluation of Wildlife Habitats. Parameters and Procedures. Workshop on Wildlife Management, Kanha, 1982.

5. Khetrapal, B.S. & Khetrapal, Puja. 1972 (Wildlife Protection Act.1972) Puja Law House, Indore.

6. Mathur. R.: Wildlife Conservation & Management, Rastogi Publications, 2018.

7. Mills, L. Scott: Conservation of Wildlife Populations, 2nd edn., Wiley Black well: Demography, Genetics & Management, 2009.

8. Kotwal P.C.: Biodiversity and Conservation. Agro Bios, Jodhpur, India, 1998.

9. Rajesh Gopal: Fundamentals of Wildlife Management, English. Natraj Publisher, Dehradun, 2011

10. Saharia, V.B., Wildlife in India Dehra Dun. Natraj Publishers, Dehradun, 1982.

11. Saharia, V.B., Guidelines for the preparation of Management Plans for Sanctuaries and National Parks. Natraj Publisher, Dehradun, 1983.

12. Tiwari, S.K., Wildlife in Central India. 3 Vols, Sarup & Sons Publishers, New Delhi, 2004.

13. Shukla, C.P.: Raj Publication, New Delhi, 2016. 14. Shukla, G.S. & Upadhyay, V.B.: Economic Zoology 4th edn English, Rastogi Publications, Meerut, 2001.

15. Shukla, G.S. & Upadhyay. V.B.: vkfFkZd izkf.kfoKku 4th edn Hindi, Rastogi Publications, Meerut, 2001.

16. Books Published by MP Hindi Granth Academy, Bhopal.

Suggestive digital platforms web links:
1. https://www.inflibnet.ac.in - e books
2. http://vle.du.ac.in
3. http://wiienvis.nic.in
4. https://www.mphindigranthacademy.org/

Practical Paper

Part A Introduction

Program: Degree	Calss : B.Sc	Year :III	Session :2023-24

Subject : Zoology

1	Course Code	S3-ZOOL2Q
2	Course Title	Importance of Wildlife (Paper-III) Group-A
3	Course Type (Core Course /Elective/Generic Elective/ Vocational/...)	Discipline Specific Elective (DSE)
4	Pre-requisite (if any)	To study this course ,a student must have had the subject Zoology in Diploma.
5	Course Learning Outcome (CLO)	Upon completion of the course, students will – 1. Acquire visual knowledge of wild animals. 2. Gain information of conservation methods of wild Animals and Forests (tree and shrubs) 3. Have knowledge equipment used in the field work of wild life. 4. Become acquainted with wild animals and their behavior. 5. Learn to visually recognize and estimate the population of wild life
6	Credit Value	2
7	Total Marks	Max. Marks : 100 Min. Passing Marks – 35

Part B- Content of the Course

Total No. of Lectures – Tutorials – Practical (2 hour per week): L-T-P: 30

Unit	Topic	No. of Lectures
I	Study of Endangered & Threatened species of Wild Animals.	2
II	Study of National Parks - Kanha, Bandhavgarh, Pench. Sanctuaries Bori, Ratapani, Gandhisagar Biosphere Reserves - Pachmarhi, Panna, Achanakmar.	4
III	Demonstration of use of Tags, Collars, Radio tracking equipment, Biological sampling, preservation and transport of samples.	4
IV	Identification of Fauna - Mammalian Fauna, Avian Fauna, Herpeto Fauna (wildlife)	2
V	Identification, demonstration, use, care and maintenance of basic equipment needed for wildlife study- Compass, Binoculars, Spotting scope, Range finders, various types of Camera and lenses.	4
VI	Familiarisation and study of animal evidences in the field by Pug Marks, Hoof marks, Nest, Antlers and Pellet groups.	4
VII	Study and estimation of diversity of Mammals and Birds	2
VIII	Faecal Analysis	2
IX	Tree canopy, cover assessment and shrubs cover assessment	2
X	Field visit and report	4

Keywords/Tags: National Park, Identification, Pug Marks, Tree, Visit