

BSC ZOOLOGY VI SEMESTER
[January 2021- June 2021 (ESE Summer 2021)]

CODE	DESCRIPTION	PD/W	EXAM	CIA	ESE	TOTAL
BSZO 611	BIODIVERSITY AND ETHOLOGY	3	3hrs	20	80	100
BSZO 612	APPLIED ZOOLOGY	3	3hrs	20	80	100
BSZO 621	ZOOLOGY LAB VI	6	3hrs	20	80	100
TOTAL				60	240	300

BSZO611 BIODIVERSITY AND ETHOLOGY

UNIT-I Biodiversity – Definition, Types- Genetic, species and ecosystem, Importance, Different values of biodiversity : social, ethical, aesthetic and option values, Diverse Fauna of India **with reference to Amphibia- Habit, habitat, general characters and economic importance of Frog, Tree frog, Toad and Salamander, Reptiles- Habit, habitat, general characters and economic importance of Varanus, crocodile, Gavalis, and Indian cobra, Birds- Habit, habitat, general characters and economic importance of Peacock, Vulture, Owl and Teetar and Mammals- Habit, habitat, general characters and economic importance of Elephant, Rhinoceros, Blue Bull, Hyena, Conservation of Biodiversity.**

UNIT-II - Biogeographical Regions of India, Hot spots, IUCN, RDB, Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts, , Endemic, Threatened species of Indian Fauna(Rare, Endangered, critically endangered, vulnerable) National Sanctuaries and zoological parks of Rajasthan- **Habit, habitat area and fauna of Keoladeo National park, Bharatpur, Desert National park Jaisalmer, Ranthambore National park , Sawai Madhopur, Sariska National park, Alwar, Sajjangargh wildlife sanctuary, Udaipur, Tal chhappar wildlife sanctuary, Churu, and Machia Biological Park, Jodhpur.**

UNIT-III - Wildlife protection Act,1972,, Project Tiger , Project Gir Lion, Crocodile breeding project, Wildlife in Rajasthan with special references to Reptiles Birds and mammals, State bird – *Ardeotis nigriceps* (Godawan) and state animal *Gazelle gazelle* (Chinkara)

UNIT-IV Animal Behaviour – Introduction, Types- Innate, Learned. Methods of Studying Animal Behaviour – Studies in laboratory - Neuro anatomical Technique, Neuro physiological Technique, Neuro chemical Technique. Studies in Wild

UNIT-V Animal Behaviour - Role of Pheromones in behavior, Role of hormone in behavior, Communication, Biological rhythms

BSZO612 APPLIED ZOOLOGY

UNIT-I Poultry Keeping: Types of Poultry Breeds, Poultry Farm and its management, Handling and Marketing of Eggs. Diseases – Disease causing Pathogens, Symptoms, and Control measures

UNIT-II Sericulture: Species of Silk Moth, Silkworms and their Host Plants, Mulberry Silk Worm culture, Life cycle. Natural enemies and Diseases of silkworm and their control.

UNIT-III Apiculture: Indian species of Honey bees, Life history of *Apis cerana indica*, Artificial Bee hives, Natural enemies and Diseases of Honey bee and their control, Bee products and their uses.

UNIT-IV Pest Management: Biology and control of pests: Paddy Pests (*Dicladestia*, *Spodoptera*), Cotton Pests (*Dysdercus*, *Pectinophora*), Sugarcane pests (*Scirpophaga*, *Pyrilla*), Stored grain pests (*Tribolium*, *Rhyzopertha*), Chemical, Biological and Mechanical pest control methods, Integrated Pest Management (IPM).

UNIT-V Aquaculture: Introduction to Aquaculture, General principles of Aquaculture, Fish farm and its management, Composite fish culture, By products of fishing industry. Prawn culture.

**ZOOLOGY LAB VI
PRACTICALS BSZO621**

1. Estimation of Haemoglobin by haemoglobinometer
2. Study of ECG of different age group persons and its analysis.
3. Blood smear and identification of different types of blood cells.
4. Estimation of bleeding time of your own blood.
5. Estimation of clotting time of your own blood.
6. Differential leucocytes count (DLC)
7. Study of different types of bee castes and their identification.
8. Study of artificial bee hive.
9. Study of different types of insect traps.
10. Bioassay study on Pesticides
11. Study of different byproducts of fishing industry.
12. Study of different types of fishing nets.
13. Study of different types of edible fishes
14. Different types of spraying and dusting equipments.
15. Permanent preparation of store grain pest – *Tribolium*, *Rhyzopertha*, *Oryzaephilus*.
16. Honey bee- preparation of mouthparts, sting pollen basket.
17. Permanent preparation of different types of mouth parts- House Fly, Cockroach, Mosquito, Butterfly.
18. Dissection of Nervous system of Cockroach
19. Local fauna report

Distribution of Marks

Marks Allotted Time duration 3hrs

1. Dissection –	18
2. Microscopic Preparation –	12
3. Spots – (5 Spots x 4)	20
4. Experimental Zoology	20
5. Year Work/ Practical Record – (CIA)	10
6. Local fauna report (CIA)	10
7. Viva Voice -	10
Total	100

Suggested Readings

1. Diversity Management: Theoretical Perspectives and Practical Approaches by Dr. Sheying Chen
2. Biology of Biodiversity by M kato
3. Biodiversity by E O Wilson
4. Diversity of life by E O Wilson
5. Threatened Animals of India by B K Tikadar
6. Principal of Animal Behavior by Lee Alan Dugatkin
7. Animal Behavior by Reena Mathur
8. Animal Behavior Desk Reference by Edward M Barrows
9. Animal Behavior by John Alcock
10. Animal Behavior by Menning
11. Modeling in Behavioral Ecology by Lendren
12. Fish and Fisheries- Shukla, Pandey
13. A Text Book Of Fish Biology And Fisheries (Paperback)
by S S Khanna H R Singh
14. Applied Entomology- P. G. Fenemore, A Prakash
15. Freshwater Aquaculture- Santhanam *et al.*
16. Aquaculture- T. V. R. Pilley
17. Sericulture & Silk Industry- D. C. Sarkar
18. Bee keeping in India- ICAR
19. Economic Zoology- Shukla Upadhyay
20. Elements of Entomology- Rajendra Singh
21. Insect Pest of crop- S. Pradhan
22. Applied zoology- Ansari, Varma, Sharma