

**Z.5.2 Environmental biology and wild life zoology**

1.	<b>ENVIRONMENTAL BIOLOGY</b> Introduction, Definition, basic concepts of ecosphere; Hydrosphere; Lithosphere and Atmosphere	2	HRS
2.	<b>HABITATS</b> Marine habitat, zonation of sea, freshwater habitat, lentic and lotic systems. Terrestrial habitat - a brief account of forest, desert and biomes. Ecological adaptations of aquatic and terrestrial animals.	4	Hrs
3.	<b>THE ECOSYSTEM</b> Definition, Structure and functions of ecosystem. Nutrient cycles in ecosystem, Energy flow in ecosystem. Major ecosystems - Natural ecosystem (fresh water - e.g., pond water, Forest) Artificial ecosystem : crop land. Food chain in ecosystem and food web. Ettonian pyramids.	8	Hrs
4.	<b>ENVIRONMENTAL POLLUTION:</b> Air pollution : Definition, sources of air pollutants, their effects. Water pollution : definition, sources of water pollutants, their effects. A brief note on noise pollution and solid wastes.	8	Hrs
5.	<b>NATURAL RESOURCES AND CONSERVATION</b> Renewable and non renewable energy resources. Soil erosion and forest conservation.	4	Hrs
7.	Ecological adaptations; aquatic, aerial and terrestrial	4 hrs	
8.	Biotic relationship in animals; mutualism, commensalism and parasitism	3 hrs	
<b>WILD LIFE ZOOLOGY</b>			
1.	<b>WILD LIFE</b> Introduction and definition protected Areas; Wildlife sanctuaries National Parks and Biosphere reserves. Hotspots of biodiversity causes for depletion of wildlife. Hunting, over harvesting, habitat destruction Habitat Degradation, effects of climatic changes on biodiversity.	3	HR
2.	<b>WILD LIFE CONSERVATIONS</b> Need for wild life conservation, Types of Conservations: In site and ex-site conservations protect Tiger and protect Lions. N.G.O.'s involved in wild life protection in India BNHS, IDCN Govt., and non govt organization. Wild life protection Act 1972 and its attendments Red data books, blue date book and Green data books CITES, Red data book.	5	HRS

**SYLLABUS FOR PRACTICAL-ZP.5.2  
(BASED ON SEMESTER –VI)**

**ENVIRONMENTAL BIOLOGY AND WILD LIFE BIOLOGY**

**A. ENVIRONMENTAL BIOLOGY:**

1. Study of tropical pond as an ecosystem: Study of fauna & flora
2. Study of aquarium as an ecosystem: Study of fauna and flora
3. Study of community: By Line transect to determine frequency, density, and abundance of different species present in the community.
4. Estimation of dissolved oxygen, carbon dioxide & Total hardness of water, chloride
5. Study of ecological adaptations and morphological peculiarities: Hermit crab, Stick insect & Glow worm, Stink bug, Puffer fish, Anglerfish, Exocoetus, Phrynosoma, Draco, Chamelion & Bat
6. Study of biotic relationship: Root nodules, Liver fluke, Tapeworm, Suckerfish, Insectivorous plants

**B. WILDLIFE BIOLOGY:**

1. Study of threatened animals of India(by models, pictures,charts): Tiger,Lion,One horned Rhinoceros, Gaur,Golden langur,Lion tailed monkey,Musk deer,Hangul (kashmir stag),Great Indian bustard and Indian Rock Python.
2. Location of Species of zoological interest on the Indian and world map. Retitae birds, Tiger, Lions, Gorilla, Hippopotamus, Rhinoceros, Dipnoi and Peripatus.
3. Location of Tiger reserves, National parks, Biosphere reserves.

**FORMAT QUESTION PAPER FOR PRACTICAL : ZP-5.2 BASED ON SEMSTEER –VI  
PAPER Z - 5.2 :**

**ENVIRONMENTAL BIOLOGY, AND WILD LIFE MANAGEMENT)**

**Maximum marks : 40**

Q.1	Estimate and explain the Presence of dissolved oxygen/carbon dioxide/chloride– from given water sample and write the estimation procedure	10
Q.2.A.	Described its morphological Peculiarities and ecological adaptations	05
2.B.	Describe its biotic relationship.	
Q. 3	Identify and comment on wild life status of the animals (endangered species) :	06
4	Mapping of Landscapes with animals :2X2=4	
5	Project Report :05	
6	Viva voce :05	
7	Record Book :05	

**Key Note to the Examiners:**

- 1.For Question no.2 and 3 Models or Charts may be Used
- 2.For Question No.4 Mapping of
  - a) Distribution of Endangered animals.
  - b) Distribution of Lung fishes and flightless birds.
  - c)Mapping of Deserts on world Map.
  - d)Mapping of land masses in on Indian Map.

**OPEN ELECTIVE SUBJECTS FOR ZOOLOGY, V.S.K UNIVERSITY ,BALLARI**

<b>V semester Syllabus</b>		<b>40 hrs</b>
<b>Unit-1: Poultry hrs</b>		<b>10</b>
<ul style="list-style-type: none"> <li>• Aim and scope of poultry.</li> <li>• Poultry farm management.</li> <li>• Poultry breeds -indigenous and exotic breeds.</li> </ul>		
<b>Unit -2: hrs</b>		<b>10</b>
<ul style="list-style-type: none"> <li>• Poultry feed and its composition.</li> <li>• Nutritive value of egg and meet.</li> <li>• Poultry diseases and their control measures.</li> </ul>		
<b>Unit -3: Apiculture hrs</b>		<b>10</b>
<ul style="list-style-type: none"> <li>• Morphology honey bee,</li> <li>• Social organization in bee colony.</li> <li>• Products of apiculture industry and its uses (honey and wax).</li> <li>• Mouth parts and sting apparatus of bee.</li> </ul>		
<b>Unit -4:</b>		<b>10 hrs</b>
<ul style="list-style-type: none"> <li>• Modern methods of bee keeping (Newton and Langstroth).</li> <li>• Methods of extraction of honey.</li> <li>• Selection of bee species for apiculture.</li> <li>• Medicinal value of honey and bee wax.</li> </ul>		