- 5. Quadrat and other methods for ground cover assessment, Height-Girth relationships in trees, Canopy cover assessment in a patch of vegetations.
- 6. Trail / transect monitoring for abundance and diversity estimation of mammals and birds, butterflies (direct and indirect evidences)

#### **Text Book**:

- 1. Caughley, G., and Sinclair, A.R.E. (1994). Wildlife Ecology and Management. Blackwell Science.
- 2. Conservation Biology: A Primer for South Asia by Kamaljit S. Bawa, Meera Anna Oommen, and Richard B. Primack, Atree and University Press

### **References:**

- 1. Woodroffe R., Thirgood, S. and Rabinowitz, A. (2005). People and Wildlife, Conflict or Coexistence? Cambridge University.
- 2. Bookhout, T.A. (1996). Research and Management Techniques for Wildlife and Habitats, 5 th edition. The Wildlife Society, Allen Press.
- 3. Sutherland, W.J. (2000). The Conservation Handbook: Research, Management and Policy. Blackwell Sciences
- 4. Hunter M.L., Gibbs, J.B. and Sterling, E.J. (2008). Problem-Solving in Conservation Biology and Wildlife Management: Exercises for Class, Field, and Laboratory. Blackwell Publishing.

# **General Electives**

[GEC offered by the Dep. of Zoology are for the students studying with other (i.e. not offered by the dept.of Zoology) honours level core courses]

Same as offered as core courses for the BSc general students

ZOOHGEC01T: Animal Diversity		
Theory (Credits 4)	Class	
Unit-1 Kingdom Protista		
General characters and classification of Subkingdom Protozoa up to Phylum (Levine et al., 1980); Locomotory Organelles and locomotion in Protozoa	3	
Unit-2 Phylum Porifera		
General characters and classification up to classes; Canal System in Sycon	3	
Unit-3 Phylum Cnidaria		
General characters and classification up to classes; Polymorphism in Hydrozoa	3	
Unit-4 Phylum Platyhelminthes		
General characters and classification up to classes; Life history of Taenia solium	3	
Unit-5 Phylum Nematoda		
General characters and classification up to classes; Life history of <i>Ascaris lumbricoides</i> and its parasitic adaptations	3	
Unit-6 Phylum Annelida		
General characters and classification up to classes; Nephridia in Annelida	3	
Unit 7 Phylum Arthropoda		
General characters and classification up to classes; Vision in insect, Metamorphosis in Insects	5	
Unit-8 Phylum Mollusca		
General characters and classification up to classes; Respiration in <i>Pila</i>	3	
Unit-9 Phylum Echinodermata		

ZOOHGEC04T, Environment and Public Health	
Theory (Credits 4)	Class
Unit 1: Introduction	
Sources of Environmental hazards, Hazard identification and accounting, Fate of toxic and	10
persistent substances in the environment, Dose response evaluation, Exposure assessment	
Unit 2: Climate Change	
Greenhouse gases and global warming, Acid rain, Ozone layer destruction, Effect of climate	10
change on public health	
Unit 3: Pollution	<u> </u>
Air, water, noise pollution sources and effects, Pollution control	5
Unit 4: Waste Management Technologies	
Sources of waste, types and characteristics, Sewage disposal and its management, Solid waste	15
disposal, Biomedical waste handling and disposal, Nuclear waste handling and disposal, Waste	
from thermal power plants.	
Unit 5: Diseases	
Causes, symptoms and control of tuberculosis, Asthma, Cholera, Minamata disease, typhoid,	10
filariasis	

## Suggested Readings [Consult Latest Editions]

- 1. Cutter, S.L., Environmental Risk and Hazards, Prentice-Hall of India Pvt. Ltd., New Delhi, 1999.
- 2. Kolluru Rao, Bartell Steven, Pitblado R and Stricoff "Risk Assessment and Management Handbook", McGraw Hill Inc., New York, 1996.
- 3. Kofi Asante Duah "Risk Assessment in Environmental management", John Wiley and sons, Singapore, 1998.
- 4. Kasperson, J.X. and Kasperson, R.E. and Kasperson, R.E., Global Environmental Risks, V. N. University Press, New York, 2003.
- 5. Joseph F Louvar and B Diane Louver Health and Environmental Risk Analysis fundamentals with applications, Prentice Hall, New Jersey 1997.

## ZOOHGEC03P: Environment and Public Health Lab (Credits 2)

1. To determine pH, Cl, SO4, NO3 in soil and water samples from different locations.

### **ENVIRONMENTAL SUSTAINIBILITY**

# **Skill Enhancement Course (SEC)**

[Offered by the Department of Zoology]

**ZOOSSEC001** (2 credits = 30 classes/hours): Aquarium Fish Keeping Class

## **Unit 1: Introduction to Aquarium Fish Keeping**

6

The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes, problems of releasing aquarium fishes into natural habitats.

## **Unit 2: Biology of Aquarium Fishes**

10

Common characters and sexual dimorphism of Fresh water and Marine Aquarium fishes such as Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish and Butterfly fish

## **Unit 3: Food and feeding of Aquarium fishes**