

## **ELECTIVE- ENVIRONMENTAL SCIENCE**

### **Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

#### **ZY 4C ET 01 Course 1- Environmental Science – Concepts and Approaches**

**Time: 3 hours**

**Total Weight: 30**

#### **Section I-Short answer type questions**

**Weight-1**

##### **Answer any 10 out of 12**

1. Distinguish between core and crust?
2. What is Lithosphere?
3. Comment on soil colloids.
4. Give a brief note on plate tectonics.
5. Differentiate between weather and climate?
6. Comment on water logging.
7. Distinguish between empty niche and novel weapon hypothesis.
8. Comment on People's participation in conservation.
9. Distinguish between landscape and habitat.
10. Comment on the role of GEF in conservation.
11. Write a brief note on CBD and the outcomes of CoP11
12. Comment on Biodiversity indices

#### **Section II-Short essay type questions**

**Weight -2**

##### **Answer any 5 out of 8**

13. Describe the role of microbes in soil.
14. Give an account on the classification of climate.
15. Explain the process of weathering and soil formation.
16. Describe the physico – chemical aspects of estuaries.
17. Give an account on monsoon in Kerala and its significance.
18. Compare and contrast natural and urban landscapes.
19. Discuss speciation and extinction with suitable examples.
20. Explain in – situ and ex – situ biodiversity conservation strategies.

#### **Section III-Long essay type questions**

**Weight- 5**

##### **Answer any 2 out of 3**

21. Write an essay on hydrological cycle and its role in the maintenance of life on earth.
22. Describe the major invasive species in India and describe the various methods for the control of invasive species.
23. Write an essay on ecological land degradation.

**Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

**ZY 4C ET 02 Course II- Environmental Pollution and Toxicology**

**Time: 3 hour**

**Total Weight: 30**

**Section I-Short answer type questions**

**Weight-1**

**Answer any 10 out of 12**

1. What is Threshold Limit Value (TLV)?
2. Define teratogenicity.
3. How is BOD significant in determining water quality standards?
4. Comment on carbon trade.
5. Distinguish between acute and chronic toxicity.
6. Which are the primary pollutants of air?
7. Write a short note on occupational hazards.
8. What is a bio digester? How it functions?
9. Comment on IPCC.
10. Give a brief account of bio transformation of xenobiotics.
11. Write a notes on the consequences of noise pollution.
12. Comment on Exxon Valdez tragedy and its environmental impact

**Section II- Short essay type questions**

**Weight-2**

**Answer any 5 out of 8**

13. Differentiate between bio accumulation and bio-magnification.
14. Give an account on Activated Sludge Treatment.
15. Describe how constructed wetlands can be used for water treatment.
16. Give an account on the hazards and management methods of e-waste.
17. What are the parameters of air quality determination?
18. How is bioremediation an effective tool for controlling pollution?
19. Give an account on toxic chemicals in the environment.

20. Write a short note on carcinogenicity and mutagenicity.

**Section III- Long essay type questions** **Weight -5**

**Answer any 2 out of 3**

21. Elucidate the advanced methods of waste water treatment.

22. How can bioindicators be used to monitor the quality of environment?

23. Describe soil pollution in highlands and wetlands of Kerala with case studies.

**Fourth Semester M.Sc. Degree Examination (CSS) –Zoology**

**ZY 4C ET 03 Course III- Environmental Management and Development**

**Time: 3 hours**

**Total Weight: 30**

**Section I-Short answer type questions**

**Weight-1**

**Answer any 10 out of 12**

1. Differentiate Rapid EIA and comprehensive EIA?
2. What is alternatives in EIA, give an example
3. Comment on LCA.
4. What is calyx expert system?
5. Write a note on spectral characteristics of surface features.
6. Comment on environmental modeling techniques.
7. Distinguish between CSR and CER.
8. Comment on Eco-labelling.
9. Briefly describe MDG.
10. Comment on the management practices for mining areas.
11. Define Global Positioning System (GPS) and comment on its application in environmental studies.
12. What is meant by “Tragedy of the Commons”?

**Section –II Short essay type questions** **weight- 2**  
**Answer any 5 out of 8**

13. What is base line data, mention the importance of baseline data collection in EIA study?
14. Explain tool box for environmental management.
15. Discuss the five basic laws of ecology.
16. Give an account on management practices for grasslands and wetlands.

17. Discuss the role of satellites in conservation.
18. Critically evaluate the pros and cons of modern agriculture.
19. Comment on ISO standards for environment management.
20. Give an account of ecological foot print analysis.

**Section III Long Essay type Question**

**weight – 5**

**Answer any 2 out of 3**

21. Write an essay on principles and concept of remote sensing.
22. Discuss India's national policy on EIA with suitable examples.
23. Critically evaluate the concept of sustainable development and the current trends.