May 2025
M.Sc.
Fourth Semester
CORE – 11
ZOOLOGY
Course Code: MZOC 4.11
(Ecology & Environment Biology)

Total Mark: 70 *Pass Mark: 28*
Time: 3 hours

Answer five *questions, taking* one *from each unit.*

UNIT–I

1. Describe how the concepts of habitat and niche are essential to understanding species distribution and biodiversity. Discuss the significance of niche breadth or niche width in determining species adaptability to environmental change. 7+7=14

2. Write a note each on the following: 7×2=14
   (a) Resource partition
   (b) Environmental effects of light and temperature

UNIT–II

3. Explain the key factors that regulate population size in an ecosystem, focusing on the concepts of natality, mortality, carrying capacity, and equitability. 14

4. Discuss the various types of population interactions that occur within ecosystems, focusing on predation, competition, mutualism, commensalism, symbiosis, and parasitism. 14

UNIT–III

5. Discuss the various methods used to measure primary productivity in an ecosystem. 14

6. (a) Explain the mode of ecological succession in aquatic ecosystem. 7

(b) Describe the trophic dynamic-energy flow and Lindeman's tropic dynamics concept. 7

UNIT–IV

7. Explain the phenomenon of global warming. Discuss its causes, potential environmental and socio-economic impacts, and suggest effective measures that can be taken to mitigate its effects. 14

8. Write a note each on the following: 7×2=14
   (a) Biodegradation and bioremediation of chemicals
   (b) Pesticides pollutants and other chemicals used in agriculture

UNIT–V

9. Discuss in detail the various values of wildlife, including its ecological, ethical, cultural, scientific, aesthetic, and recreational significance. Why is it essential to conserve wildlife from a holistic point of view? 10+4=14

10. Write a note each on the following: 7×2=14
    (a) Biodiversity Act related to international convention
    (b) Anthropogenic impact on environment