

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2025

SECOND YEAR [BATCH 2023-27]

Date : 06/05/2025

ZOOLOGY

Time : 11 am – 1 pm

Paper : 4ZOOMJC2

Full Marks : 50

1. Answer **any five** questions : [5×2]
- What is bioaugmentation?
 - What is “Arabari Model”? Where it was first implemented?
 - What are wildlife corridors?
 - What are unitary and modular populations? Give example of each.
 - Why population growth rate slows down as it approaches the carrying capacity of its environment.
 - Explain the term “Keystone Species” with example.
 - Explain the tolerance model of succession.
 - State the Leibig’s Law of Minimum.

Answer **any four** questions : [4×10]

2.
 - In which year the Tiger project in India started?
 - Mention your own comment that how much effective this project for the conservation of tiger?
 - What are the number of tiger in India according to 2024 data?
 - What is man-animal conflict? Suggest a few possible solutions to reduce such conflicts. [1+4+2+(1+2)]
3.
 - Discuss the advantages and limitations of using bioremediation for pollution control.
 - What are the roles of human activities in accelerating global warming?
 - What steps can be taken to reduce its impacts?
 - How does air sparging helps in cleaning contaminated ground water? [(2+2)+(2+2)+2]
4.
 - Write in brief about carbon budgeting. How can you reduce it in nature? Provide a short idea of your own.
 - In recent times many man animal conflicts have been noticed in Dooars region of West Bengal. Make your short comment on it.
 - Write a short note on Carbon auditing. [(2+1+2)+3+2]
5.
 - Describe different types of survivorship curves with suitable examples.
 - How can we determine a population is declining?
 - Illustrate competitive exclusion principle with a suitable example? [3+2+5]
6.
 - Define hypervolume niche.
 - Distinguish between static and cohort life tables.
 - What are density dependent factors?
 - How does the density dependent factors regulate a population?
 - ‘Interaction between two competing species results into four possible outcomes.’ – What are those outcomes? [1+2+1+2+4]

7. a) “Y-shaped Model of energy flow was found practically advantageous than that of the Single Channel Model” – Explain with reasons.
b) What is xerosere? Illustrate with an example.
c) What is ENSO? [3+(1+4)+2]
8. a) Differentiate between Tundra and Taiga.
b) What is the significance of the expression “ $b(SC)^{1/2} < 1$ ” as proposed by May (1975)?
c) Diagrammatically represent the phenomenon of cannibalism and omnivory in food webs.
d) Explain the geometric series model of species abundance with respect to the concept of niche pre-emption. [2+3+(1+1)+3]
9. Write notes on :- (**any four**) [2.5×4]
a) Eutrophication.
b) Species area relationship.
c) Environmental Audit.
d) Survivorship curve.
e) Biosphere reserve.
f) El nino.

————— × —————