

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, JUNE 2022

SECOND YEAR [BATCH 2020-23]

ZOOLOGY (GENERAL)

Paper : IV

Date : 27/06/2022

Time : 11 am – 1 pm

Full Marks : 50

Answer **any five** questions:

[5×2]

1. a) What is 'biodiversity hotspot'? Give an example.
- b) What is 'Resact'. Mention its significance.
- c) What is 'manchette' and 'neberkern'?
- d) Differentiate endemism, epidemism and pandemism.
- e) Differentiate between the scales of fish and scales of reptile.
- f) State the significance of ARO.
- g) What is down feather?
- h) What is survivorship curve?

Answer **any four** questions:

[4×5]

2. a) Comment on the three models of an ecological succession.
- b) Classify parasites (with example) according to host specificity. [2.5+2.5]
3. a) Mention three features of fish depicting its primary aquatic adaptation.
- b) What is capacitation? Mention its significance. [2.5+2.5]
4. a) Differentiate between morula, blastula and gastrula.
- b) How does the first block of polyspermy occur? [2.5+2.5]
5. a) Comment on the factors influencing loss of biodiversity.
- b) Define antigenic shift and drift with examples. [2.5+2.5]
6. Describe the structure of flight feather with a suitable diagram. [3+2]
7. a) Classify the air sacs of *Columba*.
- b) What is double respiration? [2+3]
8. a) How can the 'Universal Model of Energy Flow' represent a species population with appropriate energy inputs and its link with other species?
- b) Define Ecosystem. [3+2]

Answer **any two** questions:

[2×10]

9. a) Mention the steps of a pond succession system.
b) How does CFC rip off ozone layer?
c) Define alfa, beta and gamma biodiversity.
d) Differentiate between community and population. [3+2+3+2]
10. a) Briefly describe the sets of life cycle in *Ascaris*.
b) Why a human baby within mother's womb is not considered as a parasite?
c) Discuss the events of spermiogenesis with a schematic diagram.
d) Differentiate between primary and secondary volant adaptation with examples. [3+2+3+2]
11. a) What is pre-erythrocytic schizogony and erythrocytic schizogony?
b) Classify placenta on the basis of distribution of chorionic villi.
c) State the functions of amnion and chorion. [(2+2)+4+(1+1)]
12. a) Mention two key features to distinguish between protostomes and deuterostomes.
b) How can you determine the phylogenetic link between hemichordates and echinoderms?
c) State the major differences between the 'annuli' of a worm lizard and an earthworm.
d) What are the identifying characters of the order Columbiformes? [2+3+2+3]
13. a) "Y-shaped Energy Flow Model addresses the basic stratified structure of the ecosystem" – justify with a proper diagram. [4+1]
b) "The fascinating sense organs in snakes are instrumental for their lifestyle" - justify with reason. State two important features of the Suborder Lacertilia. [4+1]

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