

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, AUGUST 2021

SECOND YEAR [BATCH 2019-22]

ZOOLOGY (GENERAL)

Paper : IV

Date : 13/08/2021

Time : 11 am – 1 pm

Full Marks : 50

Answer all the questions:

Group A

1. a) Distinguish between 'Annulus fibrosus' and 'Nucleus pulposus'.
b) Mention two identifying characters of Suborder Ophidia.
c) State two important features exhibited by the birds belonging to the Order Galliformes. (2+1+2)
2. a) "Biological Classification is a hierarchical framework" – justify with reasons.
b) Differentiate between 'Sibling Species' and 'Subspecies'.
c) What are 'Category' and 'Taxon'? (2+2+1)

Group B

3. a) Mention the role of buccal cirri in the feeding mechanism of *Branchiostoma*.
b) Name the animals (with scientific names) where you may find 'labyrinthine organ' and 'arborescent organ'.
c) Name one fungi present in the ruminant stomach of cow. (2+2+1)
4. a) State the function of chorion and allantois as EEM.
b) How does the slow block of polyspermy occur during fertilization process?
c) Name two hormones released from placenta. (2+2+1)
5. a) How does the occurrence of yolk limit the orientation of cleavage?
b) Differentiate between blastula and gastrula depending on cellular properties.
c) Define 'nebenkern'. (2+2+1)
6. a) Comment on the superiority of 'RNA world hypothesis' in light of origin of life.
b) Why the dolphins are having secondary aquatic adaptation while a shark is primarily aquatic adapted?
c) Mention the name (with scientific name) of one mammal found in the oriental realm. (2+2+1)

Group C

7. a) Write down the important characters of Prototheria.
b) What is the function of head kidney?
c) Define foramen ovale and fossa ovalis. (2+1+2)
8. a) What is protocoooperation?
b) Define parasitoid
c) What is febrile paroxysm?
d) Mention two important characteristic features of Miracidium larva of *Fasciola*. (2+1+1+1)
9. a) What are the basic criteria for any biodiversity hotspot?
b) Why 'Inverted Pyramid of Biomass' is significant?
c) What is survivorship curve? (1+2+2)
10. a) What is biomagnification?
b) Describe the structure of a biosphere reserve. (2+3)

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