

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SIXTH SEMESTER EXAMINATION, MAY 2023

THIRD YEAR [BATCH 2020-23]

ZOOLOGY [HONOURS]

Paper : DSE3

Date : 17/05/2023

Time : 11 am – 1 pm

Full Marks : 50

1. Answer **any five** questions : [5×2]
- i) What is an aquarium?
 - ii) What is cotton mouth disease? Write down its causative agent, symptoms.
 - iii) Name one of each parasitic and protozoan disease by mentioning their causative agents.
 - iv) What are transboundary stocks? Give an example. (1+1)
 - v) State the objectives of CIFRI.
 - vi) What is pen culture?
 - vii) What are the differences between waste and pollutant?
 - viii) Briefly discuss the role of biomagnifications in an ecosystem.

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

2. a) Comment on live fish feed with examples.
b) Mention the distinguishing characters of male and female guppy fishes.
c) What is the negative effect of more frequent overcleaning of an aquarium?
d) Mention the characteristic features of Angel fish. (2+3+2+3)
3. a) What is shellfish? Give examples of shellfishes belonging to Arthropoda, Mollusca and Echinodermata.
b) What is cryopreservation? Mention its role in shellfish culture.
c) What are the basic steps of aquarium maintenance? [(1+3)+(2+1)+3]
4. a) Write short notes on (i) viral diseases of fish and (ii) fungal diseases of fish
b) Briefly delineate the Innate Immune System in fishes.
c) State the role of Rodlet cells in fish immunity. [(3+3)+2+2]
5. a) State the systematic position (upto subclass) of **any one** of the following animals mentioning one diagnostic feature of each taxon: *Sphyrna* sp., *Labeo rohita* & *Lepidosiren* sp.
b) What are the different species combinations considered under composite fish culture practices in India?
c) Distinguish between wet and dry bundh. (3+5+2)
6. a) Write a short note on duck cum fish culture.
b) What are the major sub-zones of the aphotic zone of a marine ecosystem? Comment on the biota of the pelagic zone of a marine environment.
c) What are fish silage and isinglass? [3+(3+2)+(1+1)]

7. a) Differentiate between GPS and GIS. Comment on the applications of remote sensing in fisheries.
b) Explain the terms 'dry salting' and 'wet salting'.
c) What are the main objectives of the National Fisheries Policy, 2020? [(2+3)+(1+1)+3]
- 8) a) Briefly describe the role of BOD and COD in aerobic treatment of waste water.
b) Mention the steps during waste water treatment.
c) Briefly discuss the effect of eutrophication in a pond ecosystem.
d) Write down the basic biology of Zebra fish. (3+3+2+2)
- 9) a) Describe why Zebra fish is used as model organism in human genetic research.
b) Explain the different factors which affect the ecosystem of water body.
c) Give scientific reasons as to why the oil spill in water body is dangerous for aquatic life.
d) Why conservation of fish germplasm is necessary? (3+3+3+1)

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