2013

M.Sc. Part-II Examination

ZOOLOGY

PAPER—IX (Group—B)

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the Answers to Questions of each Unit in separate Booklet.

ECOLOGY SPECIAL

Answer any *four* questions taking *two* from each unit.

Unit—I

[Aquatic Ecology]

1. Define coastal Zone.

Briefly highlight the significance of Integrated Coastal Zone Management. Add a note on different living and non-living resources of coastal ecosystem.

$2+4\frac{1}{2}+6$

2. (i) Define a Lake.

(ii) Draw and discuss the zonations in a Lake Ecosystem, mentioning their characters.

(iii) Classify Lakes on the basis of Natural Origin and explain their mode of formation.

$2+4\frac{1}{2}+6$

3. (i) Describe the functional aspects of mangrove ecosystem.

(ii) Classify Estuaries on the basis of Ecosystem energetics.

(iii) State the difference between Oligotrophic and Eutrophic lakes.

$4\frac{1}{2}+4+4$

4. Write short notes (any *three)* ; $4+4+4\frac{1}{2}$

(a) Importance of Continental margin.

(b) Values of wetlands.

(c) Classification of Plankton.

(d) Thermal stratification.

(e) Difference between Lentic and Lotic water bodies.

Unit—II

[Human Ecology]

5. Define thermal inversion. Mention the differences between London and Loss-Angells smog. Briefly discuss the environmental impact of photochemical smog.

$2\frac{1}{2}+4+6$

6. Discuss the causes, effects and future of human population explosion. What is demographic quotient and demographic transition.

$7\frac{1}{2}(2\frac{1}{2}+2+3)+5(2\frac{1}{2}+2\frac{1}{2})$

7. What is acid rain. Briefly discuss the role of environmental condition leading to the formation of acid rain. Explain the negative impact of acid rain on agriculture, and aquaculture.

$2\frac{1}{2}+4+6(3+3)$

8. Write short notes (any *three*) : $4+4+4\frac{1}{2}$

(a) Green House effect.

(b) Environmental consequences of global warming.

(c) Impact of cerbonisation on biodiversity.

(d) Social pollution.

(e) 'Doubling Time'.

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FISHERY SPECIAL

Answer any *four* questions taking *two* from each unit.

Unit—I

[Inland and Marine Fisheries]

1. What is remote sensing system ? Describe the procedure how the remote sensing system works in practical fields. Mention its applications in fishery science.

$2+8+2\frac{1}{2}$

2. Define estuary. Mention the characteristic nature of Hooghly – Matla estuary. Enlist the composition of fish fauna of such estuary. Add a note on : Backwater fishery in Kerala.

$2+5+2\frac{1}{2}+3$

3. State the characteristic feature of sweage water. Distinguish between domestic sweage and industrial sweage.

   Mention different uses of sweage water in agricultural fields. Write notes on : fish fauna in sweage water.

$2+2+6+2\frac{1}{2}$

4. Write short notes on (any *three*) : $4+4+4\frac{1}{2}$

   (a) Export of marine resources.
   (b) Biology of shrimp.
   (c) Landmark activities in fishery sciences.
   (d) Role of Oxydation ponds in sweage treatment.
   (e) Fish migration.
   (f) Reservoir ecology.

Unit—II

[Aquaculture and Fish Technology]

5. (a) What are the different steps in the intensification of aquaculture system. Add a note on Cage Culture.

$3\frac{1}{2}+3$

   (b) What is composite fish culture ? Name the fish species cultured in his type of culture practices.

$4+2$

6. (a) Write down the methods used for the control of aquatic weeds in aquaculture system.

   (b) What are the important parameters to be considered towards the selection of sites for aquafarming.

   (c) Enlist the scientific name of pearl producing bivalves found in Indian waters.

$4+4\frac{1}{2}+4$

7. (a) Classify the different types of fish diseases with suitable examples.

   (b) Write a note on white spot syndrome vival disease of *Penaeus monodon*.

   (c) Discuss briefly the prophylactic and treatment measures of EUS.

$4+4+4\frac{1}{2}$

8. (a) Write a note on annual cyclical changes of fish ovary. 3

(b) Give an account of different ovulating agents used for fish breeding. 5

(c) Write a short note on bundh breeding. Name different component of a eco-hatchery complex. $2\frac{1}{2}+2$
