

Total No. of printed pages = 4

63/2 (SEM-2) ZOO 206 (OE1)

2022

ZOOLOGY

(Theory Paper)

Paper Code : ZOO 206 (OE1)

(Aquaculture)

Full Marks - 50

Time - Two hours

The figures in the margin indicate full marks for the questions.

1. Answer the following multiple-choice type questions (*all compulsory*) : $1 \times 5 = 5$

(i) Which of the following is NOT the characteristics of dystrophic lake ?

(a) Oxygen nearly lacking

(b) Rich in phosphorus and nitrogen

(c) Rich in organic materials and low electrolytes

(d) Shallow and Warmer lake

[Turn over

(ii) Which of the following country is the largest producer of aquaculture globally ?

- (a) China (b) India
- (c) Japan (d) Canada

(iii) Which of the following zone of a deep fresh water lake is called compensation level ?

- (a) Littoral zone (b) Sublittoral zone
- (c) Profoundal zone (d) Limnetic zone

(iv) Which of the following is a characteristic of hypereutrophic lake ?

- (a) High phosphorus concentration (above 100 mg/m³) and the chlorophyll over 50 mg/m³
- (b) Poor water clarity with Secchi disk depths usually less than 0.5 meter
- (c) They have extensive, dense weed beds and often accumulations of filamentous algae
- (d) All of the above

(v) The depth of an aquatic body at which photosynthesis and respiration become equal is called

- (a) complementary depth
- (b) compensation depth
- (c) critical depth
- (d) euphotic zone.

2. Answer the following very short answer type questions (*all compulsory*) : 2×5=10

(a) What do you mean by attenuation of light ?
Write about the role of visible ray in aquatic life habit. 1+1=2

(b) Write the major differences between capture and culture fishery.

(c) Explain briefly ecosystem services of wetland.

(d) Differentiate between plankton and nekton by giving examples.

(e) Distinguish between oligotrophic and eutrophic lakes.

4. Answer any *five* of the following questions : 5×5=25

(a) Write the role of temperature, dissolved oxygen and pH in aquatic system.

- (b) What is meant by cold-water fisheries ? Write a brief note on the indigenous cold-water fishery of Mahaseer.
- (c) Write about the origin and classification of lakes according to Hutchinson, 1957.
- (d) Compare the characteristic features of fresh water and marine water environment.
- (e) Describe the fisheries of Ganga and Brahmaputra river systems.
- (f) What do you mean by trophic state index of an aquatic body ? Explain the water chemistry parameters used to determine the trophic state of an aquatic system. $1+4=5$
- (g) Distinguish between dissolved oxygen and biological oxygen demand in an aquatic system. Write a short note on the different types of plankton. $2+3=5$

4. Answer any *one* of the following : $10 \times 1 = 10$

- (a) Discuss some strategies for conservation and management of aquatic resources for sustainable development.
- (b) What do you mean by aquatic productivity ? Explain how aquatic productivity changes with available light at various depths of an aquatic body like a lake. Describe in detail how you can measure the productivity of an aquatic ecosystem. $2+3+5=10$