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6 SEM TDC DSE ZOO (CBCS) 2 (H)

2025

(May)

ZOOLOGY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-2

(**Fish and Fisheries**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. Fill in the blanks : 1×5=5

(a) Fishes that migrate between freshwater and marine environments for spawning are called ____.

(b) ____ scales are found exclusively in cartilaginous fishes.

(c) ____ is a traditional fishing craft used in marine fisheries.

(2)

(d) The hormone _____ is commonly used for induced breeding in fishes.

(e) The first transgenic fish approved for human consumption is _____.

2. Write short notes on (any two) : $3 \times 2 = 6$

(a) Placoid scales

(b) Mechanoreceptors in fish

(c) Application of GIS in fisheries

(d) Fishing gears

3. Differentiate between (any two) : $3 \times 2 = 6$

(a) Anadromous and Catadromous migration

(b) Extensive and Semi-intensive culture of fish

(c) Chondrichthyes and Osteichthyes

(d) Pen and Cage culture

4. Classify fishes up to class with examples. 9

Or

What are transgenic fishes? How are they produced? Discuss the advantages of transgenic fish over normal fish culture.

$1+3+5=9$

(3)

5. Write about the various types of reproductive strategies adopted with special reference to Indian fishes. 9

Or

What is parental care? Discuss the various types of parental care found in fishes with suitable illustrations. $2+7=9$

6. Define induced breeding of fish. Write a note on the principle and procedure of induced breeding in fishes. $1+2+6=9$

Or

Define aquarium. Write a note on the preparation and maintenance of fish aquarium. $1+8=9$

7. What are the causes of depletion of fisheries resources? Write briefly about the fisheries law and regulations. $3+6=9$

Or

Write an essay on common fish diseases and their symptoms. How do you control fish diseases? $7+2=9$

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6 SEM TDC DSE ZOO (CBCS) 3 (H)

2025

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ZOOLOGY

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(For Honours)

Paper : DSE-3

(**Immunology**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. Fill in the blanks with appropriate word(s) :

1×5=5

(a) Mast cells release the potent inflammatory chemical called ____.

(b) Thymus secretes ____ lymphocytes.

(c) ____ is a type of blood cell that serves primarily as phagocyte.

(2)

- (d) The end product of the complement system is ____.
- (e) The first antibody released in primary response is ____.
2. Distinguish between (any two) : $2 \times 2 = 4$
- (a) Primary and Secondary immune response
- (b) Class I and Class II MHC molecules
- (c) B-cell epitopes and T-cell epitopes
- (d) Antigenicity and Immunogenicity
3. Write short notes on (any three) : $4 \times 3 = 12$
- (a) Adjuvants and their effects
- (b) Haptens
- (c) RIA
- (d) Hybridoma technology
- (e) Various types of vaccine
4. Define immunology. Describe the cells and organs involved in immune system. $1 + 7 = 8$
- Or
- Discuss in brief about the early theories of immunology. 8

(3)

5. Write an explanatory note on active and passive immunity with examples. $4 + 4 = 8$
- Or
- Define immune dysfunctions. Discuss AIDS as an auto-immune disorder. $1 + 7 = 8$
6. What is immunoglobulin? Describe briefly the structure of different types of immunoglobulin with suitable diagrams. $1 + 7 = 8$
- Or
- Write an explanatory note on various types of antigen-antibody interaction. 8
7. Discuss the endogenous and exogenous pathways of antigen processing and presentation. 8
- Or
- What is complement system? What are its components? Describe briefly about the classical pathway of complement activation. $1 + 2 + 5 = 8$
