

2023

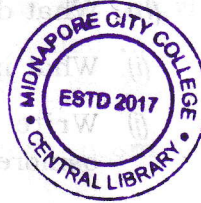
BFSC 3rd Semester Examination

Physiology of Finfish and Shellfish

PAPER — BFSC-307

Full Marks : 50

Time : 2 hours



The figures in the right-hand margin indicate marks.

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

Illustrate the answers wherever necessary.

1. Answer any **ten** questions from the following :
2×10=20

(a) What do you mean by spiracle?

(b) What is the main function of the digestive
system of fish?

(c) Classify fishes based on the feeding
habit.

(2)

- ✓ (a) What do you mean by gastric and agastric fishes? Give examples of each.
- (e) What is the function of blood plasma?
- ✓ (f) Mention the difference between Type-I and Type-II kidneys in fishes.
- ✓ (g) What is green gland?
- ✓ (h) What do you mean by Oogenesis?
- (i) What is myofibril?
- (j) Write the differences between osmoregulator and osmoconformer.
- ✓ (k) What do you mean by hermaphroditism in fish? Give example.
- (l) What do you mean by chemoreception in fish?
- ✓ (m) Define olfactory organ and its function in fish.
- (n) What do you mean by anaerobic metabolism?
- (o) What is endocrine gland? Give example.
- ✓ (p) Mention the function of Adrenocorticotropic Hormone (ACTH).
- ✓ (q) Write the role of Prolactin (PRL) in fishes.

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(Continued)



(3)

2. Answer any six questions from the following :
5×6=30

- (a) Illustrate the structure of teleostean kidney with suitable diagram. 5
- ✓ (b) Write down briefly the cell types, secretion and functions of adenohypophysis in fish. 5
- ✓ (c) Draw a schematic diagram on the overview of ammonia and urea production through protein catabolism in fishes. 5
- ✓ (d) Write down the mechanism of osmoregulation in marine teleost. 5
- (e) Illustrate briefly the ovarian cycle in fish. 5
- (f) Write down the breeding biology of tiger shrimp. 3+2=5
- (g) Briefly describe the testicular cycle in bony fishes. 2+3=5
- ✓ (h) Why do the scales over the lateral line of a fish perforated? What are the main functions of lateral line on fish? 3+2=5
- ✓ (i) Mention the types of gills present in shellfishes with examples. What do you mean by Pulmonary Sac? 3+2=5

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(Turn Over)



(4)

(j) Briefly describe the lipid metabolism in fishes. 5

(k) Write a note on the accessory respiratory organ of *Anabas testudineus* with suitable diagram. 5

Write down briefly the cell types, section and functions in fish. ★★ ★

Draw a schematic diagram on the overview of ammonia and urea production through protein catabolism in fishes.

Write down the mechanism of osmoregulation in marine teleost.

(l) Illustrate briefly the ovarian cycle in fish.

(m) Write down the breeding biology of tiger shamp.

(n) Briefly describe the testicular cycle in honey fish.

Why do the scales over the lateral line of a fish perforated? What are the main functions of lateral line in fish?

Mention the type of gills present in shellfishes with examples. What do you mean by respiratory sac?