

M.Sc. ZOOLOGY
Third Semester
FISH AND FISHERY BIOLOGY
(MSZ – 13 C)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any *five* of the following questions:

1. Discuss in details about the biochemical composition of fish. (10)
2. What do you mean by accessory respiratory organs? Describe the different types of accessory respiratory organs found in freshwater fishes. (2+8=10)
3. Define Osmoregulation. Describe the process of osmoregulation in migratory fishes. (2+8=10)
4. Write a brief note on ornamental and endangered fishes of North East India with suitable examples. (5+5=10)
5. What is hill stream fishery? Write the characteristics of hill stream fishery.
What are the modifications found in the body of hill stream fishes? (2+3+5=10)
6. What are planktons? Describe the role of planktons in fishery. (2+8=10)
7. What is inland capture fishery? Give an account on fisheries of river Brahmaputra and its tributaries. (2+8=10)
8. Write short notes on (any two): (5×2=10)
 - a) Types of scales in fishes.
 - b) Index of preponderance.
 - c) Colouration in fishes.

d) Conditions responsible for air breathing adaptation in fishes.

e) Cold water fisheries of India.

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×11=11

1. Dogfish is-
a) a freshwater bony fish b) a marine cartilaginous fish
c) a marine bony fish d) an extinct fish
2. Air bladder is a –
a) hydrostatic organ of a cartilaginous fish b) hydrostatic organ of a bony fish
c) hydrostatic organ of a lamprey d) hydrostatic organ of a whale
3. Fishes without scales and having sensory barbells around the mouth are called-
a) Dogfish b) Catfish c) Dipnoi d) Flying fish
4. Match column I with column II and select the correct answer using answer codes:

Column I
A) Scale-less fish
B) Lobed fish
C) Prehensile tail
D) Migratory fish

Column II
I) Salmon
II) Hippocampus
III) Latimeria
IV) Catfish

Answer codes-

	A	B	C	D
a)	3	4	1	2
b)	4	3	2	1
c)	2	4	1	2
d)	4	3	1	2

5. The unique feature of a fish's heart is that it has-
a) only venous blood b) only arterial blood
c) no blood at all d) mixed blood
6. The nitrogenous waste product of fishes are-
a) ammonia b) urea
c) both ammonia and urea d) uric acid

7. Anguilla migrates from –
a) river to sea b) sea to river
c) estuary to sea d) sea to estuary
8. Accessory respiratory organ is found in –
a) Anabus b) Clarias
c) Heteropneustes d) all
9. The age of a fish can be determined-
a) with the help of scales.
b) measuring the size of the body.
c) with the help of the amount of food consumed.
d) by the type of the tail.
10. In fishes, fins help in-
a) swimming.
b) stabilising the body during stationary condition.
c) stabilising the body in water during swimming.
d) all.
11. Migration in fishes is mainly associated with –
a) breeding b) feeding
c) protection d) none

II. Fill in the blanks:

1×6=6

1. _____ is the study of scales.
2. In chondrichthyes, the caudal fin is _____.
3. Fishes that tolerate a narrow range of salinity are called _____.
4. Bottom-feeder fishes have _____ mouth.
5. Placoid scales are made up of _____ and _____.
6. Depending upon the presence or absence of duct, the swim bladder may be of two types, _____ and _____.

III. Write True or False:

1×3=3

1. Salt water fish are rich in Omega 3 fatty acids.
2. The vertebrae of fishes are either cartilaginous or bone.
3. Fishes are the first group of animals having paired jaws which are ectothermic.
