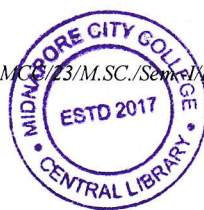


PG CBCS
M.SC. Semester- I Examination, 2023
FISHERIES SCIENCE
PAPER: FSC 102



(FISH TAXONOMY, CLASSIFICATION, BIOLOGY, BIODIVERSITY &
CONSERVATION OF FISHES AND GEOGRAPHIC DISTRIBUTION, ADAPTATION
AND EVOLUTION OF FISHES)

Full Marks: 40

Time: 2 Hours

The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Write the answer for each unit in separate sheet

**FSC 102.1: FISH TAXONOMY, CLASSIFICATION, BIOLOGY, BIODIVERSITY &
CONSERVATION OF FISHES**

GROUP-A

Answer any **TWO** of the following questions:

2×2=4

1. Define holotype and paratype with suitable examples?
2. What do you mean by the Index of Biotic Integrity (IBI)?
3. Write two differences between exotic and invasive species.
4. What is living fossil? Mention the example of fish with order name.

GROUP-B

Answer any **TWO** of the following questions:

2×4=8

1. Briefly discuss International Code of Zoological Nomenclature (ICZN).
2. Write a note on phylogenetic tree.
3. Discuss In-situ and Ex-situ conservation mode of fish.
4. Write down the different causes for depletion of fish diversity.

GROUP-C

Answer any **ONE** of the following questions:

1×8=8

1. Define α -taxonomy and β -taxonomy? Discuss the different molecular techniques used for fish taxonomic study. Write a short note on morphometric characteristics of fishes. 2+3+2
2. Write characters of following fish orders with examples of each: Synbranchiformes, Clupeiformes. State the life cycle and feeding habit of any shrimp. 3+(3+2)

(P.T.O.)

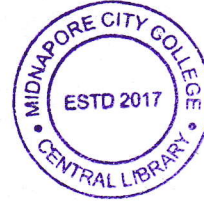
**FSC 102.2 GEOGRAPHIC DISTRIBUTION, ADAPTATION AND EVOLUTION
OF FISHES**

GROUP-A

Answer any **TWO** of the following questions:

2×2=4

1. What is elver eel?
2. Mention the distribution of any two lung fishes.
3. Write a note on living fossil of fishes.
4. Mention the evolutionary importance of the ostracoderm fish.



GROUP-B

Answer any **TWO** of the following questions:

2×4=8

1. Briefly mention the distinctive features of Chimera fish.
2. Write down the important characters of agnathan fishes.
3. Mention the adaptive modification of deep-sea fishes.
4. Briefly explain the evolution of bony fishes with phylogenic tree.

GROUP-C

Answer any **ONE** of the following questions:

1×8=8

1. What are Zoogeographical realms? Briefly describe the geographical range and fishes available in the Ethiopian realms. Add a note on Neotropical realms with special emphasis on fish abundance. 2+(2+2)+2
2. What do you mean by fish migration? Distinguish between anadromous and catadromous fish migration. Write a short note on evolutionary significance of fish migration. 3+3+2
