বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

B.F.Sc. 1st Semester Examination 2021

PAPER—BFSC-106

TAXONOMY OF FINFISH

Full Marks : 70

Time : 3 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.

Illustrate the answers wherever necessary.

THEORY

1. Answer any *ten* questions. 10×2

(a) What do you mean by tautonymy? Give two examples from fish.

(b) Mention the morphological differences between *Notopterus notopterus* and *Notopterus chitala*.

(c) Explain holotype and paratype with example.

(d) Mention the importance of taxonomy in aquaculture.

(e) State on alpha and beta taxonomy.

(f) Mention the name of different steps of Linnaean hierarchy.

(g) Name two pre Linnaean and post Linnaean taxonomist.

(h) Write down the main objectives of nomenclature.

(i) What do you mean by folk taxonomy?

(j) State Law of priority rules in nomenclature with example.

(k) What is karyotaxonomy?

(l) Write down the primary goal of biosystematics.

(m) Who is the father of taxonomy? Name two books written by him.

(n) What do you mean by meristic characteristics of fish?

(o) Name two commercially important fishes under the order Cypriniformes with their identifying characters.

2. Answer any *six* questions. 6×5

(a) Discuss on homonymy and synonymy with example. 2.5+2.5

(b) Give an account on morphometric characteristics of fishes from the taxonomic point.

(c) What do you mean by binomial nomenclature? State the importance of scientific nomenclature. 2+3

(d) Write a note on International Code of Zoological nomenclature (ICZN).

(e) Give an account on Barcoding technique for fish identification.

(f) What is taxonomic key? How dichotomous key identify the fish? 2+3

(g) Classify Elasmobranch fishes upto order level with order characters and example.

(h) State on phylogenetic tree and its importance. Give example of one fish phylogenetic tree. 3.5+1.5

(i) Mention identifying characters and example of the following order of fishes – perciformes, siluriformes. 2.5+2.5

(j) What is DNA polymorphism? How DNA polymorphism technique helps to identify a fish? 1.5+3.5

PRACTICAL

Answer any *two* questions. 2×10

1. Write down the systematic position, order, family, genus and species characters of the following specimen. 4×2.5

(a) *Amblypharyngodon mola*

(b) *Puntius ticto*

(c) *Channa punctatus*

(d) *Ompok bimaculatus*

2. Write down the systematic position, order, family, genus and species characters of the following specimen. 4×2.5

(a) *Megalaspis cordyla*

(b) *Tenualosa toli*

(c) *Exocoetus volitans*

(d) *Scoliodon sorrakowah*

3. Draw and label an ideal teleostean fish with morphological characters.

4. Write down the DNA barcoding technique for fish identification.

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