C 20060 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION MARCH 2022

Aquaculture

AQC 6B 17—FISH GENETICS, BIOTECHNOLOGY AND BIOINFORMATICS

(2014 to 2018 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*

Each question carries 1 *marks.*

I. Name the following :

1 Fisheries database.

2 Example of one transgenic fish.

3 Scientific name of one Peral producing mollusc.

4 Probiotic used in aquaculture.

5 Molecular visualization tool.

II. Match the following :

6 BLAST	—	(a)	Protein data base
7 DDBJ	—	(b)	Transcriptomics.
8 CLUSTAL	—	(c)	Drug discovery.
9 PDB	—	(d)	Multiple sequence analysis.
10 CADD	—	(e)	Nucleotide database.
	—	(f)	Pair wise sequence analysis

(10 × 1 = 10 marks)

Part B

Write short notes on any **five** *questions.*
Each question carries 2 *marks.*

11 What are supplementary and complementary genes ?

12 What is cloning ?

Turn over

13 What is hybrid vigor ?

14 What are probiotics ?

15 What are the different types of cryopreservation methods.

16 What are marine toxins ?

17 What is mono-sex population and mention its importance in aquaculture.

(5 × 2 = 10 marks)

Part C

Answer any **six** *of the following in not more than* **two paragraphs**.

Each question carries 5 *marks.*

18 Briefly describe the structure of chromosomes.

19 Comment on the scope and production of triploid and polyploid fishes.

20 Explain the determinant of DNA replication.

21 Write notes on the types of synthetic hormone, its production methods and uses in induced breeding.

22 Describe the importance of proteomic studies.

23 Briefly explain the sequence alignment types and tools used for it.

24 Comment of fisheries databases.

25 Write brief account on molecular docking and computer aided drug discovery.

(6 × 5 = 30 marks)

Part D

Write essays on any **two** *of the following.*

Each question carries 15 *marks.*

26 Write an essay on the classification of fish genetics.

27 Describe the relevance of biological data bases.

28 Write an essay on the scope of marine biotechnology.

29 Explain detail about the genetics of sex determination in fishes and prawns.

(2 × 15 = 30 marks)