

## PREVIEW QUESTION BANK

Module Name : Fish Genetics and Breeding - 56-ENG  
Exam Date : 29-Jun-2024 Batch : 14:30-16:30

| Sr. No.            | Client Question ID | Question Body and Alternatives                                                                                                                                                                                                                                                                                               | Marks | Negative Marks |
|--------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------|
| Objective Question |                    |                                                                                                                                                                                                                                                                                                                              |       |                |
| 1                  | 201                | <p>Movement of DNA from one bacterium to another through a tubular bridge or pilus:</p> <ol style="list-style-type: none"> <li>1. Conjugation</li> <li>2. Transposition</li> <li>3. Transfection</li> <li>4. Transduction</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                 | 4.0   | 1.00           |
| Objective Question |                    |                                                                                                                                                                                                                                                                                                                              |       |                |
| 2                  | 202                | <p>Which of the following is responsible for eliminating toxic oxygen by-products from cells?</p> <ol style="list-style-type: none"> <li>1. Mitochondria</li> <li>2. Golgi complex</li> <li>3. Peroxisomes</li> <li>4. Chloroplasts</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                       | 4.0   | 1.00           |
| Objective Question |                    |                                                                                                                                                                                                                                                                                                                              |       |                |
| 3                  | 203                | <p>A form of multiple parasitism in which a parasite preferentially attacks a host that is already parasitized by another species is known as</p> <ol style="list-style-type: none"> <li>1. Cleptoparasitism</li> <li>2. Ectoparasitoid</li> <li>3. Obligate parasitism</li> <li>4. Superparasitism</li> </ol> <p>A1 : 1</p> | 4.0   | 1.00           |

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A2 : 2 |  |  |
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|   |     |                                                                                                                                                                                                                                                                                       |     |      |
|---|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 4 | 204 | <p>For mass multiplication of DD-136 nematode, the common host used is</p> <ol style="list-style-type: none"> <li>1. Silk moth</li> <li>2. Fruit sucking moth</li> <li>3. Codling moth</li> <li>4. Lesser wax moth</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|---|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|   |     |                                                                                                                                                                                                                                                                                                                                                 |     |      |
|---|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 5 | 205 | <p>Chlorpyrifos methyl is effective against stored product insects except</p> <ol style="list-style-type: none"> <li>1. <i>Rhizopertha dominica</i></li> <li>2. <i>Tribolium castaneum</i></li> <li>3. <i>Caryedon serratus</i></li> <li>4. <i>Oryzaephilus surinamensis</i></li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|---|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|   |     |                                                                                                                                                                                                                                                                                                    |     |      |
|---|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 6 | 206 | <p>Which of the following insects often cause inhalational allergies in human following large emergence of adult insects.</p> <ol style="list-style-type: none"> <li>1. Stick insects</li> <li>2. May flies</li> <li>3. Ear wigs</li> <li>4. Preying mantis</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|---|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A3 : 3

A4 : 4

## Objective Question

7 207

4.0 1.00

Given below are two statements:

Statement (I): Climate is a weather condition related to smaller areas at a given place and at a given time,

Statement (II): Weather is a condition of atmosphere at a given place and at a given time

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

## Objective Question

8 208

4.0 1.00

The local name of cyclone in Philippines is

1. Hurricane
2. Cyclone
3. Baquio
4. Typhoon

A1 : 1

A2 : 2

A3 : 3

A4 : 4

## Objective Question

9 209

4.0 1.00

Which one of the following are secondary tillage implements?

- (A) Subsoiler
- (B) Cultivator
- (C) Disc harrow
- (D) Wetland plough

Choose the **correct** answer from the options given below:

- 1. (A), (B) and (D) only.
- 2. (B) and (C) only.
- 3. (B), (C) and (D).
- 4. (B) and (D) only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

#### Objective Question

10 210

\_\_\_\_\_ is the most suitable, drought resistant and persistent grass?

- 1. *Alyosia* sp.
- 2. *Cenchrus ciliaris*
- 3. *Stylosanthes hamata*
- 4. *Sorghum bicolor*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

#### Objective Question

11 211

The rainfed area in India is approximately

- 1. 30 mha
- 2. 40 mha
- 3. 57 mha
- 4. 70 mha

A1 : 1

A2 : 2

4.0 1.00

|                    |     |                                                                                                                                                                                                                                                                                                                               |     |      |
|--------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |     | A3 : 3                                                                                                                                                                                                                                                                                                                        |     |      |
|                    |     | A4 : 4                                                                                                                                                                                                                                                                                                                        |     |      |
| Objective Question |     |                                                                                                                                                                                                                                                                                                                               |     |      |
| 12                 | 212 | <p>Which nutrient is often a limiting factor in agricultural production?</p> <ol style="list-style-type: none"> <li>1. Nitrogen</li> <li>2. Carbon</li> <li>3. Oxygen</li> <li>4. Hydrogen</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                 | 4.0 | 1.00 |
| Objective Question |     |                                                                                                                                                                                                                                                                                                                               |     |      |
| 13                 | 213 | <p>What is a potential disadvantage of agroforestry systems?</p> <ol style="list-style-type: none"> <li>1. Increased soil erosion</li> <li>2. Decreased carbon sequestration</li> <li>3. Reduced biodiversity</li> <li>4. Enhanced susceptibility to pests</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |     |                                                                                                                                                                                                                                                                                                                               |     |      |
| 14                 | 214 | <p>Pungency in mustard oil is due to</p> <ol style="list-style-type: none"> <li>1. Amino acid</li> <li>2. Allyl isothiocyanate</li> <li>3. Erusic acid</li> <li>4. Oxalic acid</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p>                                                                                                         | 4.0 | 1.00 |

|                    |     |                                                                                                                                                                                                                                                                                                    |     |      |
|--------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |     | A3 : 3                                                                                                                                                                                                                                                                                             |     |      |
|                    |     | A4 : 4                                                                                                                                                                                                                                                                                             |     |      |
| Objective Question |     |                                                                                                                                                                                                                                                                                                    |     |      |
| 15                 | 215 | <p>Sesamum belongs to the family</p> <ol style="list-style-type: none"> <li>1. Chenopodiaceae</li> <li>2. Papilionaceae</li> <li>3. Leguminosae</li> <li>4. Pedaliaceae</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                         | 4.0 | 1.00 |
| Objective Question |     |                                                                                                                                                                                                                                                                                                    |     |      |
| 16                 | 216 | <p>Dark period is critical in which type of plant?</p> <ol style="list-style-type: none"> <li>1. Short day plant</li> <li>2. Long day plant</li> <li>3. Day neutral plant</li> <li>4. All the options</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                           | 4.0 | 1.00 |
| Objective Question |     |                                                                                                                                                                                                                                                                                                    |     |      |
| 17                 | 217 | <p>Which of the following is NOT a significant contributor to greenhouse gas emissions from livestock farming?</p> <ol style="list-style-type: none"> <li>1. Carbon dioxide</li> <li>2. Methane</li> <li>3. Nitrous oxide</li> <li>4. Ammonia</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |

A4 : 4

## Objective Question

|    |     |                                                                                                                                                                                                                                                                                      |     |      |
|----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 18 | 218 | <p>Fe deficiency is mostly seen in crops growing on</p> <ol style="list-style-type: none"> <li>1. Calcareous or alkaline soils</li> <li>2. Salt affected soils</li> <li>3. Acidic soils</li> <li>4. Neutral soils</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |
|----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 19 | 219 | <p>EDV (Essentially Derived Varieties) are those which are derived from</p> <ol style="list-style-type: none"> <li>1. crossing two commercially known varieties</li> <li>2. hybrid introduced from other countries</li> <li>3. existing variety through genetic engineering or mutation</li> <li>4. crossing commercially known variety with its wild relative</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |     |                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |
|----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 20 | 220 | <p>What is the role of "companion planting" in agriculture?</p> <ol style="list-style-type: none"> <li>1. Enhancing soil fertility through crop rotation</li> <li>2. Growing different crop species together to deter pests</li> <li>3. Cultivating plants in hydroponic system</li> <li>4. Increasing soil compaction through cover cropping</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |
|----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
|--------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      | A4 : 4                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 21                 | 2401 | <p>The shortest phase of mitosis is _____</p> <ol style="list-style-type: none"> <li>1. Prophase</li> <li>2. Metaphase</li> <li>3. Anaphase</li> <li>4. Telophase</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                                                                                                                                            | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 22                 | 2402 | <p>If 20% of heterozygous polydactyly (Pp) do not show polydactyly, the gene has a penetrance of</p> <ol style="list-style-type: none"> <li>1. 20%</li> <li>2. 100%</li> <li>3. 0%</li> <li>4. 80%</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                                                                                                           | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 23                 | 2403 | <p>If 54 mutations are detected among 723 progeny of males that received 2500 roentgens and 78 mutation among 649 progeny of males that received 4000 roentgens, how many mutants would be expected to appear among 1000 progeny of males that received 6000 roentgens :</p> <ol style="list-style-type: none"> <li>1. 152 mutants</li> <li>2. 162 mutants</li> <li>3. 172 mutants</li> <li>4. 182 mutants</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 24 | 2404 | <p>Genetic interactions may also occur without epistasis if the end products of different pathways each contribute to same trait. This phenomenon is referred to as</p> <ol style="list-style-type: none"> <li>1. Overlapping epistasis</li> <li>2. Complementary gene action</li> <li>3. non complementary gene action</li> <li>4. Gene duplication</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 25 | 2405 | <p>In a population under Hardy-Weinberg equilibrium, what happens to the genotype frequencies over successive generations in the absence of evolutionary forces?</p> <ol style="list-style-type: none"> <li>1. Genotype frequencies remain constant</li> <li>2. Genotype frequencies fluctuate randomly</li> <li>3. Genotype frequencies approach fixation for one allele</li> <li>4. Genotype frequencies exhibit directional change</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 26 | 2406 | <p>A heritability value of 0.7 for height in humans indicates that</p> <ol style="list-style-type: none"> <li>1. 70% of an individual's height is determined by genetics.</li> <li>2. Height is 70% determined by environmental factors</li> <li>3. 70% of the variation in height within a population is due to genetic factors</li> <li>4. 70% of height variation is due to random chance.</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A4 : 4

## Objective Question

27 2407

4.0

1.00

In analysis of variance (ANOVA), what does a high F-statistic value indicate?

1. There is a strong linear relationship between the variables.
2. There is a significant difference between group means.
3. There is no significant difference between group means.
4. The variance explained by the independent variable is low.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

## Objective Question

28 2408

4.0

1.00

Which of the following is a strategy used to maintain genetic diversity in captive populations?

1. Inbreeding
2. Artificial selection
3. Founder effect
4. Controlled mating

A1 : 1

A2 : 2

A3 : 3

A4 : 4

## Objective Question

29 2409

4.0

1.00

The Nagoya Protocol on Access to Genetic Resources and Equitable Sharing of Benefits, came into force in—

1. 2010
2. 2011
3. 2013
4. 2014

A1 : 1

A2 : 2

A3 : 3

|                    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |
|--------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      | A4 : 4                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |
| 30                 | 2410 | <p>Cryopreservation of eggs and embryos of fish has been reported with less success. The main reasons are believed to be –</p> <p>(A). Large yolk sac</p> <p>(B). Large egg volume</p> <p>(C). Chorion</p> <p>(D). Chorionic membrane</p> <p>1. (A), (B) and (D) only.</p> <p>2. (A), (B) and (C) only.</p> <p>3. (A), (B), (C) and (D).</p> <p>4. (B), (C) and (D) only.</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |
| 31                 | 2411 | <p>Biological evolution by natural selection is when genes _____, individuals _____, and populations _____.</p> <p>1. evolve; mutate; are selected</p> <p>2. are selected; mutate; evolve</p> <p>3. evolve; are selected; mutate</p> <p>4. mutate; are selected; evolve</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                   | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |
| 32                 | 2412 | <p>A second mutation at a different location in the genome , which compensates for the effect of the first mutation is a_____.</p> <p>1. forward mutation</p> <p>2. back mutation</p> <p>3. suppressor mutation</p> <p>4. reverse mutation</p>                                                                                                                                                                                        | 4.0 | 1.00 |

|                    |      |                                                                                                                                                                                                                                                                                                                |     |      |
|--------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      | A1 : 1                                                                                                                                                                                                                                                                                                         |     |      |
|                    |      | A2 : 2                                                                                                                                                                                                                                                                                                         |     |      |
|                    |      | A3 : 3                                                                                                                                                                                                                                                                                                         |     |      |
|                    |      | A4 : 4                                                                                                                                                                                                                                                                                                         |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                |     |      |
| 33                 | 2413 | <p>From the following list of tagging methods, which is incorrect for fish?</p> <ol style="list-style-type: none"> <li>1. Dye marking</li> <li>2. Fin clipping</li> <li>3. Metal tagging</li> <li>4. PIT tagging</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                            | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                |     |      |
| 34                 | 2414 | <p>As per IUCN list of threatened species, Tor putitora, Tor malabaricus and Tor khudree are—</p> <ol style="list-style-type: none"> <li>1. Near threatened</li> <li>2. Vulnerable</li> <li>3. Critically endangered</li> <li>4. Endangered</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                |     |      |
| 35                 | 2415 | <p>Genomic imprinting does not _____</p> <ol style="list-style-type: none"> <li>1. regulate gene expression</li> <li>2. show Mendelian inheritance</li> <li>3. cause differential expression of parental genes</li> <li>4. determine the phenotypic outcome of the offspring</li> </ol>                        | 4.0 | 1.00 |

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A1 : 1 |  |  |
|  |  | A2 : 2 |  |  |
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 36 | 2416 | <p>Allozyme markers are less polymorphic because _____</p> <ol style="list-style-type: none"> <li>1. coding sequences are conserved and genetic code is degenerate</li> <li>2. coding sequences are conserved and some amino acid changes remain undetected</li> <li>3. polymorphism remain undetected due to limitations of electrophoresis</li> <li>4. Coding sequences are conserved, genetic code is degenerate, and electrophoresis limits detection</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                          |     |      |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 37 | 2417 | <p>Chitosan nanoparticles are not ____</p> <ol style="list-style-type: none"> <li>1. produced from chitin by deacetylation</li> <li>2. positively charged</li> <li>3. biodegradable and biocompatible</li> <li>4. approved by USFDA for drug delivery</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                        |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 38 | 2418 | <p>A Taqman probe is related to ____</p> <ol style="list-style-type: none"> <li>1. genotyping by real-time PCR</li> <li>2. genotyping by Southern hybridisation</li> <li>3. genotyping by high resolution melting curve</li> <li>4. genotyping by PCR and fragment analysis</li> </ol> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |
|--------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      | A1 : 1                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |
|                    |      | A2 : 2                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |
|                    |      | A3 : 3                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |
|                    |      | A4 : 4                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |
| 39                 | 2419 | <p>Mosaicism is a term used in ____</p> <ol style="list-style-type: none"> <li>1. transfection</li> <li>2. transformation</li> <li>3. transgenesis</li> <li>4. translation</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                                                                                                        | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |
| 40                 | 2420 | <p>Which of these is not true for 16S metagenomic sequencing by NGS?</p> <ol style="list-style-type: none"> <li>1. It is used to compare microbial biodiversity in different environments</li> <li>2. It yields novel genes from the sequenced microbes</li> <li>3. It is PCR-based</li> <li>4. It uses the V3 and V4 regions of 16S genes that are most variable</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |
| 41                 | 2421 | <p>The plasma membrane is not ____</p> <ol style="list-style-type: none"> <li>1. freely permeable to gases</li> <li>2. freely permeable to water</li> <li>3. impermeable to charged and polar molecules</li> <li>4. freely permeable to ethanol</li> </ol> <p>A1 : 1</p>                                                                                                                                                             | 4.0 | 1.00 |

A2 : 2

A3 : 3

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                            |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 42 | 2422 | <p>Which of these organelles are rich in hydrolytic enzymes?</p> <ol style="list-style-type: none"> <li>1. Golgi bodies</li> <li>2. Lysosomes</li> <li>3. Peroxisomes</li> <li>4. Endoplasmic reticulum</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                           |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 43 | 2423 | <p>BAC and YAC are_____.</p> <ol style="list-style-type: none"> <li>1. Natural DNA obtained from bacteria and yeast</li> <li>2. High expression, multi copy vectors</li> <li>3. High capacity phagemids</li> <li>4. High capacity, single copy vectors</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                     |     |      |
|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 44 | 2424 | <p>The restriction enzyme that makes blunt cuts in DNA is</p> <ol style="list-style-type: none"> <li>1. Eco R I</li> <li>2. Hind III</li> <li>3. Bam H I</li> <li>4. EcoRV</li> </ol> <p>A1 : 1</p> | 4.0 | 1.00 |
|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A2 : 2 |  |  |
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                  |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 45 | 2425 | <p>What is true for plasmid?</p> <ol style="list-style-type: none"> <li>1. Plasmids are widely used in gene transfer</li> <li>2. These are found in virus</li> <li>3. Plasmid contain gene for vital activities</li> <li>4. These are main part of chromosome</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                         |     |      |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 46 | 2426 | <p>A bacterium methylates its DNA to-</p> <ol style="list-style-type: none"> <li>1. Clone its DNA</li> <li>2. Be able to transcribe many genes simultaneously</li> <li>3. Begin the S-phase</li> <li>4. Protect DNA from its own restriction enzymes</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                             |     |      |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 47 | 2427 | <p>Which of the following is the DNA barcode region?</p> <ol style="list-style-type: none"> <li>1. Cytochrome oxidase c subunit I (Folmer region)</li> <li>2. Cytochrome c oxidase subunit I (Folmer region)</li> <li>3. Cytochrome c oxidase subunit I (Palumbi region)</li> <li>4. Cytochrome c oxidase subunit II</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A3 : 3

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                              |     |      |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 48 | 2428 | <p>What does BLAST stand for ?</p> <ol style="list-style-type: none"> <li>1. Biased Local Alignment Search Tool</li> <li>2. Basic Local Alignment Search Tool</li> <li>3. Basic Local Alignment Score Tool</li> <li>4. Basic Linked Alignment Search Tool</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 49 | 2429 | <p>Which of the following is the primary focus of metagenomics ?</p> <ol style="list-style-type: none"> <li>1. Determining protein structure of the community</li> <li>2. Investigating genetic material from environmental samples</li> <li>3. Determining genetic mutation within population</li> <li>4. Studying individual genomes of the organisms</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                    |     |      |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 50 | 2430 | <p>In FASTA format, the definition line must begin with</p> <ol style="list-style-type: none"> <li>1. "&gt;", followed by a unique SeqID</li> <li>2. unique SeqID followed by a "&gt;"</li> <li>3. "#", followed by a unique SeqID</li> <li>4. unique SeqID followed by a "#"</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |
|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                         |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 51 | 2431 | <p>Interferons are cellular proteins produced mainly in response to .....</p> <ol style="list-style-type: none"> <li>1. Virus infection</li> <li>2. Bacterial infection</li> <li>3. Fungus infection</li> <li>4. Parasitic infection</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                       |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 52 | 2432 | <p>Name the process of mating of F1 hybrid to one of its parents</p> <ol style="list-style-type: none"> <li>1. Intergressive hybridization</li> <li>2. Parental line</li> <li>3. Test cross</li> <li>4. Back cross</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                  |     |      |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 53 | 2433 | <p>Who invented the process of producing monoclonal antibodies ?</p> <ol style="list-style-type: none"> <li>1. Kary Mullis</li> <li>2. Watson and Creek</li> <li>3. Georges Kohler and César Milstein</li> <li>4. Robert Hook</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                             |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 54 | 2434 | <p>Polymerase chain reaction technique was invented by ----</p> <ol style="list-style-type: none"> <li>1. Kary Mullis</li> <li>2. Watson and Creek</li> <li>3. Georges Kohler and César Milstein</li> <li>4. Robert Hook</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                            |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 55 | 2435 | <p>Which of the following is a Fish Cell Line ?</p> <ol style="list-style-type: none"> <li>1. RTG-2</li> <li>2. Vero</li> <li>3. HeLa</li> <li>4. BHK21</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |
|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 56 | 2436 | <p>(A). Necrophagous fish are carrion-eaters.</p> <p>(B). Polyphagy predominate in boreal and arctic zones.</p> <p>(C). Ambush predators actively search and pursue the prey.</p> <p>(D). Temporal aphagy is typical in anadromous fish during spawning.</p> <p>Choose the <b>correct</b> answer from the options given below:</p> <ol style="list-style-type: none"> <li>1. (A), (B) and (D) only.</li> <li>2. (A), (C) and (D) only.</li> <li>3. (A), (B), (C) and (D).</li> <li>4. (B), (C) and (D) only.</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A3 : 3

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 57 | 2437 | <p>Do the hypercapnia-induced decrease of intra- and extra-cellular pH values compensate by the increase in one of the following molecules/ions?</p> <ol style="list-style-type: none"> <li>1. Carbonate concentration</li> <li>2. Nitrite content</li> <li>3. Hydrogen ion concentration</li> <li>4. Bicarbonate concentration</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                 |     |      |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 58 | 2438 | <p>Which of the following functions is not performed by epithelial <math>2^{\circ}</math> circulation in fish?</p> <ol style="list-style-type: none"> <li>1. Heat exchange</li> <li>2. Non-respiratory nutrient transport</li> <li>3. Osmoregulation</li> <li>4. Eye warming</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                    |     |      |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 59 | 2439 | <p>Which of the following species naturally spawn in Spring and Autumn?</p> <ol style="list-style-type: none"> <li>1. Anabas testudineus</li> <li>2. Cirrhinus mrigala</li> <li>3. Tenuulosa ilisha</li> <li>4. Ompok pabda</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |      |                                                                                                                                                                                                                                                                                                                                                   |     |      |
|--------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      | A3 : 3                                                                                                                                                                                                                                                                                                                                            |     |      |
|                    |      | A4 : 4                                                                                                                                                                                                                                                                                                                                            |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                   |     |      |
| 60                 | 2440 | <p>Which fish secrete thread-like substances from their kidney on which eggs remain attached?</p> <ol style="list-style-type: none"> <li>1. <i>Esox lucius</i></li> <li>2. <i>Salmo salar</i></li> <li>3. <i>Hyporhamphus affinis</i></li> <li>4. <i>Etheostoma congregata</i></li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                   |     |      |
| 61                 | 2441 | <p>Which of the following pituitary hormones regulates oocyte maturation in fish?</p> <ol style="list-style-type: none"> <li>1. Luteinising hormone</li> <li>2. Follicle stimulating hormone</li> <li>3. Thyroid stimulating hormone</li> <li>4. Prolactin</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                     | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                   |     |      |
| 62                 | 2442 | <p>Which is not a characteristic of a demersal egg?</p> <ol style="list-style-type: none"> <li>1. Size &gt;1.0 mm</li> <li>2. Less specific gravity</li> <li>3. Low fecundity</li> <li>4. Thicker envelope</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p>                                                                                   | 4.0 | 1.00 |

A4 : 4

## Objective Question

|    |      |                                                                                                                                                                                                                                                                |     |      |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 63 | 2443 | <p>Starch and cellulose are examples of</p> <ol style="list-style-type: none"> <li>1. Monosaccharides</li> <li>2. Disaccharides</li> <li>3. Polysaccharides</li> <li>4. Mucopolysaccharides</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                                                                                                                                                   |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 64 | 2444 | <p>Triglycerides consists of</p> <ol style="list-style-type: none"> <li>1. Three fatty acid and a phosphate group</li> <li>2. Three fatty acid and a glycerol</li> <li>3. Three glycerol molecules and a phosphate group</li> <li>4. Three glycerol molecules and a fatty acid</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |      |                                                                                                                                                                                                                           |     |      |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 65 | 2445 | <p>The amino acid alanine is classified</p> <ol style="list-style-type: none"> <li>1. Non polar</li> <li>2. Polar</li> <li>3. Acidic</li> <li>4. Basic</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |      |                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
|--------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |      |                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 66                 | 2446 | <p>Which of the following fatty acids is commonly found in fish oils and is known for its health benefits</p> <ol style="list-style-type: none"> <li>1. Palmitic acid</li> <li>2. Stearic acid</li> <li>3. Linoleic acid</li> <li>4. omega-3-fatty acids</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                     | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 67                 | 2447 | <p>Proline is an example for a</p> <ol style="list-style-type: none"> <li>1. Amino acid</li> <li>2. Imino acid</li> <li>3. Amino acetic acid</li> <li>4. Aminoaldehyde</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                                                                       | 4.0 | 1.00 |
| Objective Question |      |                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |
| 68                 | 2448 | <p>Transaldolase enzyme catalyses the transfer of _____</p> <ol style="list-style-type: none"> <li>1. Two carbon unit from ketose sugar to aldose sugar</li> <li>2. Three carbon unit from ketose sugar to aldose sugar</li> <li>3. Amino group from amino acid to keto acid</li> <li>4. Keto group of sugar to L-amino acid</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |

| Objective Question |         |                                                                                                                                                                                                                                                                                       |     |      |
|--------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 69                 | 2449    | <p>The pentose phosphate pathway meets the need of all organisms for a source of</p> <ol style="list-style-type: none"> <li>1. NAD<sup>+</sup></li> <li>2. NADH</li> <li>3. NADPH</li> <li>4. Cytochrome</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>           | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                       |     |      |
| 70                 | 2450    | <p>The biosynthesis of glucose from non- carbohydrate sources is known as</p> <ol style="list-style-type: none"> <li>1. Glycolysis</li> <li>2. Glycogenesis</li> <li>3. Glycogenolysis</li> <li>4. Gluconeogenesis</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                       |     |      |
| 71                 | 1002851 | <p>An allele that is very common in a population is referred to as</p> <ol style="list-style-type: none"> <li>1. Carrier type</li> <li>2. Wild type</li> <li>3. Mutant type</li> <li>4. Semi lethal type</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>           | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                       |     |      |
| 72                 | 1002852 |                                                                                                                                                                                                                                                                                       | 4.0 | 1.00 |

|  |  |                                                                                                                                                                                                                                                                                                                                                               |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|  |  | <p>The square method in genetics to determine phenotypic or genotypic combinations in crosses is named after its inventor called</p> <ol style="list-style-type: none"> <li>1. Regald C. Punet</li> <li>2. Regeld C. Punnet</li> <li>3. Reginald C. Punnett</li> <li>4. Reginald C. Punett</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

## Objective Question

|    |         |                                                                                                                                                                                                                                                          |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 73 | 1002853 | <p>_____ is not involved in a DNA replication fork.</p> <ol style="list-style-type: none"> <li>1. Translocase</li> <li>2. Topoisomerase</li> <li>3. Beta clamp</li> <li>4. RNA primer</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                                             |     |      |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 74 | 1002854 | <p>Nullisomy is represented by</p> <ol style="list-style-type: none"> <li>1. <math>2n+2</math></li> <li>2. <math>2n-2</math></li> <li>3. <math>2n-1</math></li> <li>4. <math>2n+1</math></li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |  |     |      |
|----|---------|--|-----|------|
| 75 | 1002855 |  | 4.0 | 1.00 |
|----|---------|--|-----|------|

|                    |         |                                                                                                                                                                                                                                                                                                            |     |      |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |         | <p>The genotype that produces a mirror scale phenotype in carps is</p> <ol style="list-style-type: none"> <li>1. Homozygous Dominant</li> <li>2. Heterozygous dominant</li> <li>3. Homozygous recessive</li> <li>4. Hemizygous dominant</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> |     |      |
| Objective Question |         |                                                                                                                                                                                                                                                                                                            |     |      |
| 76                 | 1002856 | <p>On an average one centimorgans (cM) is equal to</p> <ol style="list-style-type: none"> <li>1. 10 kb</li> <li>2. 100kb</li> <li>3. 1000kb</li> <li>4. 10000kb</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                         | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                            |     |      |
| 77                 | 1002857 | <p>Some genes that increase the mutation rate of another locus are referred to as</p> <ol style="list-style-type: none"> <li>1. Mutants</li> <li>2. Mutagens</li> <li>3. Tautomers</li> <li>4. Mutators</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                 | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                            |     |      |
| 78                 | 1002858 |                                                                                                                                                                                                                                                                                                            | 4.0 | 1.00 |

|  |  |                                                                                                                                                                                                                                                                                                                                             |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|  |  | <p>Q-banding (Quinacrine) used in the chromosomal banding technique is</p> <ol style="list-style-type: none"> <li>1. A yellow fluorescent stain</li> <li>2. A yellow non-fluorescent stain</li> <li>3. A blue fluorescent stain</li> <li>4. A blue non-fluorescent stain</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

## Objective Question

|    |         |                                                                                                                                                                                                                                  |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 79 | 1002859 | <p>The thickness of the chromatin filament is _____</p> <ol style="list-style-type: none"> <li>1. 30nm</li> <li>2. 300nm</li> <li>3. 700nm</li> <li>4. 1400nm</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                                                                                                          |     |      |
|----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 80 | 1002860 | <p>If the dominant alleles of both loci each produce the same phenotype without cumulative effect, the classical dihybrid ratio is modified as</p> <ol style="list-style-type: none"> <li>1. 9:7</li> <li>2. 15:1</li> <li>3. 9:6:1</li> <li>4. 9:3:4</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |  |     |      |
|----|---------|--|-----|------|
| 81 | 1002861 |  | 4.0 | 1.00 |
|----|---------|--|-----|------|

The dominance genetic variance can be estimated using which of the following methods?

1. RFLP
2. Parent-offspring regression
3. Half-sib analysis
4. Full-sib analysis

A1 : 1

A2 : 2

A3 : 3

A4 : 4

#### Objective Question

82 1002862

Which of the following scenarios would most likely lead to a limit on selection?

1. A population with high genetic diversity
2. A population experiencing strong directional selection
3. A population with low genetic variation
4. A population with high gene flow

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

#### Objective Question

83 1002863

Which of the following is NOT a genetic variance component in quantitative genetics?

1. Additive genetic variance
2. Epistatic genetic variance
3. Environmental variance
4. Dominance genetic variance

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

#### Objective Question

84 1002864

4.0

1.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Heritability estimates provide a precise measure of the genetic contribution to individual traits.

Reason (R) : Heritability estimates remain constant across different environmental conditions.

In light of the above statements, choose the correct answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

#### Objective Question

|    |         |                                                                                                                                                                                                                                                                                                                                              |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 85 | 1002865 | <p>If the inbreeding coefficient of an individual is 0.25, what is the probability that this individual carries two identical alleles by descent at a specific locus?</p> <ol style="list-style-type: none"> <li>1. 1.0</li> <li>2. 0.25</li> <li>3. 0.5</li> <li>4. 0.75</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

#### Objective Question

|    |         |                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 86 | 1002866 | <p>How does migration between populations affect the Hardy-Weinberg equilibrium?</p> <ol style="list-style-type: none"> <li>1. It increases the likelihood of genetic drift</li> <li>2. It decreases the frequency of heterozygotes</li> <li>3. It maintains allele frequencies across populations</li> <li>4. It disrupts the equilibrium by introducing new alleles</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A4 : 4

## Objective Question

|    |         |                                                                                                                                                                                                                                                                                                             |     |      |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 87 | 1002867 | <p>If the frequency of the dominant allele (<math>p</math>) in a population is 0.7, what is the frequency of the heterozygous genotype (<math>Aa</math>) according to the Hardy-Weinberg equilibrium?</p> <p>1. 0.21<br/>2. 0.42<br/>3. 0.49<br/>4. 0.63</p> <p>A1 : 1<br/>A2 : 2<br/>A3 : 3<br/>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                           |     |      |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 88 | 1002868 | <p>Which statistical analysis is commonly used to study the inheritance of quantitative traits?</p> <p>1. Chi-square test<br/>2. T-test<br/>3. Hardy-Weinberg equilibrium<br/>4. ANOVA</p> <p>A1 : 1<br/>A2 : 2<br/>A3 : 3<br/>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                                                                        |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 89 | 1002869 | <p>Outlier loci are often associated with _____.</p> <p>1. Genes under strong purifying selection<br/>2. Genes involved in local adaptation<br/>3. Genes located on the sex chromosomes<br/>4. Genes involved in essential metabolic processes</p> <p>A1 : 1<br/>A2 : 2<br/>A3 : 3</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A4 : 4

## Objective Question

|    |         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |
|----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 90 | 1002870 | <p>In a population with two subpopulations, what effect would you expect on observed heterozygosity due to the Wahlund effect?</p> <ol style="list-style-type: none"> <li>1. Increased observed heterozygosity</li> <li>2. Decreased observed heterozygosity</li> <li>3. No effect on observed heterozygosity</li> <li>4. Random fluctuation in observed heterozygosity</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                                                      |     |      |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 91 | 1002871 | <p>The quantitative traits are influenced by ____</p> <ol style="list-style-type: none"> <li>1. One gene</li> <li>2. More than one gene</li> <li>3. Environment</li> <li>4. Genes and Environment</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|    |         |                                                                                                                                                                                                                                                                                           |     |      |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 92 | 1002872 | <p>Find the odd match out.</p> <ol style="list-style-type: none"> <li>1. Discontinuous variation - QTLs</li> <li>2. RFLPs - DNA markers</li> <li>3. Co-segregation - genetic mapping</li> <li>4. Recombination frequency - LoD Score</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |
|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |         | A4 : 4                                                                                                                                                                                                                                                                                                                                                     |     |      |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 93                 | 1002873 | <p>The distribution pattern of phenotypes for polygenic traits is....</p> <ol style="list-style-type: none"> <li>1. 3:1</li> <li>2. 9:3:3:1</li> <li>3. A bell-shaped curve</li> <li>4. Even continuous variation</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                       | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 94                 | 1002874 | <p>The value of inbreeding coefficient (F) in a fish population mainly depends on ...</p> <ol style="list-style-type: none"> <li>1. Number of sibs</li> <li>2. Number of inbred individuals</li> <li>3. Number of heterozygous individuals</li> <li>4. Size of the effective population</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 95                 | 1002875 | <p>In a mass selection, the intensity of selection (<math>i</math>) = 2.5, standard deviation (<math>\sigma</math>) = 60 and heritability is 0.1. The response of selection (R) is_____</p> <ol style="list-style-type: none"> <li>1. 10</li> <li>2. 10.5</li> <li>3. 15</li> <li>4. 15.5</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p>             | 4.0 | 1.00 |

|                    |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |         | A4 : 4                                                                                                                                                                                                                                                                                                                                                     |     |      |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 96                 | 1002876 | <p>EBV refers to..</p> <ol style="list-style-type: none"> <li>1. Effect of breeding value</li> <li>2. Estimated breeding value</li> <li>3. Effect of breeding variables</li> <li>4. Estimation of breeding variables</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                    | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 97                 | 1002877 | <p>The first selective breeding program in aquaculture in India was undertaken in _____</p> <ol style="list-style-type: none"> <li>1. Common carp</li> <li>2. Catla</li> <li>3. Rohu</li> <li>4. Magur</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                  | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
| 98                 | 1002878 | <p>The first reported selection experiments in aquaculture in 1920s were in _____</p> <ol style="list-style-type: none"> <li>1. Rainbow trout &amp; common carp</li> <li>2. Brook trout &amp; common carp</li> <li>3. Rainbow trout &amp; Atlantic salmon</li> <li>4. Rainbow trout &amp; Brook trout</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |

|                    |         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |
|--------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |         | A4 : 4                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |
| 99                 | 1002879 | <p>In selective breeding of ornamental fishes, focus is given primarily on ....</p> <ol style="list-style-type: none"> <li>1. growth trait</li> <li>2. disease resistance trait</li> <li>3. pigmentation/color trait</li> <li>4. fecundity</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                                                                                                | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |
| 100                | 1002880 | <p>In many studies of natural hybridization, transmission of genes from one to another has been reported. This type of transmission is known as...</p> <ol style="list-style-type: none"> <li>1. Rare hybridization</li> <li>2. Transmissive hybridization</li> <li>3. Introgression</li> <li>4. Hybrid vigor</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>                                                             | 4.0 | 1.00 |
| Objective Question |         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |
| 101                | 1002881 | <p>Parentage analysis using co-dominant DNA markers is often undertaken to deduce pedigree information of offspring of multiple families reared together. Here, the parentage assignment of pedigree works on the principle of -</p> <ol style="list-style-type: none"> <li>1. Probability of exclusion</li> <li>2. Probability of inclusion</li> <li>3. mismatches</li> <li>4. matches</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> | 4.0 | 1.00 |

A4 : 4

## Objective Question

|     |         |                                                                                                                                                                                                                                      |     |      |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 102 | 1002882 | <p>The name for a chromosome map unit is</p> <ol style="list-style-type: none"> <li>1. Centimorgan</li> <li>2. Morgan</li> <li>3. Millimendel</li> <li>4. Decibar</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                             |     |      |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 103 | 1002883 | <p>Recombination percentage in a diploid cannot exceed</p> <ol style="list-style-type: none"> <li>1. 10%</li> <li>2. 20%</li> <li>3. 40%</li> <li>4. 50%</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                               |     |      |
|-----|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 104 | 1002884 | <p>Some QTLs/ genes linked to growth and disease resistance have been reported in which of the following Indian fish species ?</p> <ol style="list-style-type: none"> <li>1. Labeo rohita</li> <li>2. Labeo catla</li> <li>3. Clarias magur</li> <li>4. Channa striata</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                        |     |      |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 105 | 1002885 | <p>Which of the following two hormones are essential for induced breeding of fishes?</p> <ol style="list-style-type: none"> <li>1. TSH and ACTH</li> <li>2. Oestrogen and progesterone</li> <li>3. FSH and LH</li> <li>4. Vassopressin and oxytocin</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                    |     |      |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 106 | 1002886 | <p>High ____ increases the ability of a species to survive major changes in the environment.</p> <ol style="list-style-type: none"> <li>1. phenotypic diversity</li> <li>2. genetic diversity</li> <li>3. ability to camouflage</li> <li>4. ecosystem diversity</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                      |     |      |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 107 | 1002887 | <p>Which of the following evolutionary models assigns different rates for transitions and transversions?</p> <ol style="list-style-type: none"> <li>1. Kimura-2 Parameter model</li> <li>2. Jukes-Cantor model 2</li> <li>3. ABGD model</li> <li>4. PTP model</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                    |     |      |
|-----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 108 | 1002888 | <p>Maximum parsimony is a method used for ____.</p> <ol style="list-style-type: none"> <li>1. Principal Component Analysis</li> <li>2. Phylogenetic analysis</li> <li>3. Probability distribution</li> <li>4. Parentage testing</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                          |     |      |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 109 | 1002889 | <p>_____ are the most polymorphic co-dominant markers.</p> <ol style="list-style-type: none"> <li>1. RAPD markers</li> <li>2. RFLP markers</li> <li>3. Microsatellite markers</li> <li>4. SNP markers</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                   |     |      |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 110 | 1002890 | <p>A BLAST hit with _____ E-value indicates a database match of good quality.</p> <ol style="list-style-type: none"> <li>1. 1 (one)</li> <li>2. 2 (two)</li> <li>3. <math>10^{-10}</math></li> <li>4. <math>10^{10}</math></li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                       |     |      |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 111 | 1002891 | <p>Ab initio structural predictions work on the principle that attractive interactions lead to _____ energy of the molecule.</p> <ol style="list-style-type: none"> <li>lowest</li> <li>highest</li> <li>moderate</li> <li>dynamic</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                                                               |     |      |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 112 | 1002892 | <p>_____ is untrue for Fluorescent In-Situ Hybridisation.</p> <ol style="list-style-type: none"> <li>It detects the location of DNA markers in the genome</li> <li>It utilises metaphase spreads</li> <li>It can be used as a diagnostic tool for cancer</li> <li>It allows the use of one probe at a time</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                            |     |      |
|-----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 113 | 1002893 | <p>An antibiotic selection marker commonly used for selecting transformed eukaryotic cell lines is _____.</p> <ol style="list-style-type: none"> <li>Carbenicillin</li> <li>Neomycin</li> <li>Streptavidin</li> <li>Chloramphenicol</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|  |  |        |  |  |
|--|--|--------|--|--|
|  |  | A3 : 3 |  |  |
|  |  | A4 : 4 |  |  |

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 114 | 1002894 | <p>institute Biosafety Committee regulates ____.</p> <ol style="list-style-type: none"> <li>1. Use of recombinant DNA and clones</li> <li>2. Use of recombinant DNA, clones and pathological microbes</li> <li>3. Use of recombinant DNA, clones, pathological microbes, and hazardous chemicals</li> <li>4. Use of recombinant DNA, clones, pathological microbes, hazardous chemicals, and DNA sequencers</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                |     |      |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 115 | 1002895 | <p>ABGD stands for ____.</p> <ol style="list-style-type: none"> <li>1. American Barcoded Germplasm Depository</li> <li>2. Automatic Barcode Gap Discovery</li> <li>3. Australian Barcoded Genetic Data</li> <li>4. Auxotrophic Bacterial Genetic Depository</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                                                       |     |      |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 116 | 1002896 | <p>Which of the following is not true ?</p> <ol style="list-style-type: none"> <li>1. Maternal inheritance can be traced by studying mitochondrial DNA</li> <li>2. Paternal inheritance can be traced by studying the Y chromosome</li> <li>3. Y chromosome never recombines</li> <li>4. Mitochondrial DNA is highly conserved</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

A3 : 3

A4 : 4

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                                                            |     |      |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 117 | 1002897 | <p>Complementary DNA (cDNA) is ____.</p> <ol style="list-style-type: none"> <li>1. the same as the sense strand sequence of a gene</li> <li>2. the same as the antisense strand sequence of a gene</li> <li>3. mRNA reverse transcribed to DNA</li> <li>4. a gene on the reverse strand</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                     |     |      |
|-----|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 118 | 1002898 | <p>A nanoparticle is highly cationic if its zeta potential is ____.</p> <ol style="list-style-type: none"> <li>1. &gt; 5 mV</li> <li>2. &gt; 10 mV</li> <li>3. &gt; 20 mV</li> <li>4. &gt; 30 mV</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |
|-----|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

## Objective Question

|     |         |                                                                                                                                                                                                                                                                                                                   |     |      |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
| 119 | 1002899 | <p>A clastogenic compound is one that ____.</p> <ol style="list-style-type: none"> <li>1. is used for surface coating of nanoparticles</li> <li>2. causes genotoxicity</li> <li>3. is used for chemical synthesis of nanoparticles</li> <li>4. creates hyperosmotic stress</li> </ol> <p>A1 : 1</p> <p>A2 : 2</p> | 4.0 | 1.00 |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|

|                    |         |                                                                                                                                                                                                                                                                                                     |     |      |
|--------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|                    |         | A3 : 3                                                                                                                                                                                                                                                                                              |     |      |
|                    |         | A4 : 4                                                                                                                                                                                                                                                                                              |     |      |
| Objective Question |         |                                                                                                                                                                                                                                                                                                     |     |      |
| 120                | 1002900 | <p>RCGM stands for ____</p> <p>1. Review Committee on Genetic Manipulation</p> <p>2. Review Commission on Germplasm Manipulation</p> <p>3. Review Commission on Germplasm Management</p> <p>4. Review Committee on Genetic Modification</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p> | 4.0 | 1.00 |