

PREVIEW QUESTION BANK

Module Name : Fish Biotechnology - 57-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	Movement of DNA from one bacterium to another through a tubular bridge or pilus: 1. Conjugation 2. Transposition 3. Transfection 4. Transduction A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	202	Which of the following is responsible for eliminating toxic oxygen by-products from cells? 1. Mitochondria 2. Golgi complex 3. Peroxisomes 4. Chloroplasts A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	203	A form of multiple parasitism in which a parasite preferentially attacks a host that is already parasitized by another species is known as 1. Cleptoparasitism 2. Ectoparasitoid 3. Obligate parasitism 4. Superparasitism A1 : 1	4.0	1.00

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

4	204	For mass multiplication of DD-136 nematode, the common host used is 1. Silk moth 2. Fruit sucking moth 3. Codling moth 4. Lesser wax moth A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

5	205	Chlorpyrifos methyl is effective against stored product insects except 1. <i>Rhizopertha dominica</i> 2. <i>Tribolium castaneum</i> 3. <i>Caryedon serratus</i> 4. <i>Oryzaephilus surinamensis</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

6	206	Which of the following insects often cause inhalational allergies in human following large emergence of adult insects. 1. Stick insects 2. May flies 3. Ear wigs 4. Preying mantis A1 : 1 A2 : 2	4.0	1.00
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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	Which nutrient is often a limiting factor in agricultural production? 1. Nitrogen 2. Carbon 3. Oxygen 4. Hydrogen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

13	213	What is a potential disadvantage of agroforestry systems? 1. Increased soil erosion 2. Decreased carbon sequestration 3. Reduced biodiversity 4. Enhanced susceptibility to pests A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

14	214	Pungency in mustard oil is due to 1. Amino acid 2. Allyl isothiocyanate 3. Erusic acid 4. Oxalic acid A1 : 1 A2 : 2	4.0	1.00
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		A3 : 3		
		A4 : 4		
Objective Question				
15	215	Sesamum belongs to the family 1. Chenopodiaceae 2. Papilionaceae 3. Leguminosae 4. Pedaliaceae A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
16	216	Dark period is critical in which type of plant? 1. Short day plant 2. Long day plant 3. Day neutral plant 4. All the options A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
17	217	Which of the following is NOT a significant contributor to greenhouse gas emissions from livestock farming? 1. Carbon dioxide 2. Methane 3. Nitrous oxide 4. Ammonia A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

18	218	Fe deficiency is mostly seen in crops growing on 1. Calcareous or alkaline soils 2. Salt affected soils 3. Acidic soils 4. Neutral soils A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

19	219	EDV (Essentially Derived Varieties) are those which are derived from: 1. crossing two commercially known varieties 2. hybrid introduced from other countries 3. existing variety through genetic engineering or mutation 4. crossing commercially known variety with its wild relative A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

20	220	What is the role of "companion planting" in agriculture? 1. Enhancing soil fertility through crop rotation 2. Growing different crop species together to deter pests 3. Cultivating plants in hydroponic system 4. Increasing soil compaction through cover cropping A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
21	2401	The shortest phase of mitosis is _____ 1. Prophase 2. Metaphase 3. Anaphase 4. Telophase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
22	2402	If 20% of heterozygous polydactyly (Pp) do not show polydactyly, the gene has a penetrance of 1. 20% 2. 100% 3. 0% 4. 80% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
23	2403	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 : 1. 152 mutants 2. 162 mutants 3. 172 mutants 4. 182 mutants A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

24 2404

4.0 1.00

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

1. Overlapping epistasis
2. Complementary gene action
3. non complementary gene action
4. Gene duplication

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 2405

4.0 1.00

In a population under Hardy-Weinberg equilibrium, what happens to the genotype frequencies over successive generations in the absence of evolutionary forces?

1. Genotype frequencies remain constant
2. Genotype frequencies fluctuate randomly
3. Genotype frequencies approach fixation for one allele
4. Genotype frequencies exhibit directional change

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26 2406

4.0 1.00

A heritability value of 0.7 for height in humans indicates that

1. 70% of an individual's height is determined by genetics.
2. Height is 70% determined by environmental factors
3. 70% of the variation in height within a population is due to genetic factors
4. 70% of height variation is due to random chance.

A1 : 1

A2 : 2

A3 : 3

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

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
33	2413	From the following list of tagging methods, which is incorrect for fish? 1. Dye marking 2. Fin clipping 3. Metal tagging 4. PIT tagging A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
34	2414	As per IUCN list of threatened species, Tor putitora, Tor malabaricus and Tor khudree are— 1. Near threatened 2. Vulnerable 3. Critically endangered 4. Endangered A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
35	2415	Genomic imprinting does not _____ 1. regulate gene expression 2. show Mendelian inheritance 3. cause differential expression of parental genes 4. determine the phenotypic outcome of the offspring	4.0	1.00

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

Objective Question

36	2416	Allozyme markers are less polymorphic because _____ 1. coding sequences are conserved and genetic code is degenerate 2. coding sequences are conserved and some amino acid changes remain undetected 3. polymorphism remain undetected due to limitations of electrophoresis 4. Coding sequences are conserved, genetic code is degenerate, and electrophoresis limits detection A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

37	2417	Chitosan nanoparticles are not ____ 1. produced from chitin by deacetylation 2. positively charged 3. biodegradable and biocompatible 4. approved by USFDA for drug delivery A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

38	2418	A Taqman probe is related to ____ 1. genotyping by real-time PCR 2. genotyping by Southern hybridisation 3. genotyping by high resolution melting curve 4. genotyping by PCR and fragment analysis	4.0	1.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

39	2419	Mosaicism is a term used in ____ 1. transfection 2. transformation 3. transgenesis 4. translation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

40	2420	Which of these is not true for 16S metagenomic sequencing by NGS? 1. It is used to compare microbial biodiversity in different environments 2. It yields novel genes from the sequenced microbes 3. It is PCR-based 4. It uses the V3 and V4 regions of 16S genes that are most variable A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

41	2421	The plasma membrane is not ____ 1. freely permeable to gases 2. freely permeable to water 3. impermeable to charged and polar molecules 4. freely permeable to ethanol A1 : 1	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

42	2422	Which of these organelles are rich in hydrolytic enzymes? 1. Golgi bodies 2. Lysosomes 3. Peroxisomes 4. Endoplasmic reticulum A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

43	2423	BAC and YAC are_____. 1. Natural DNA obtained from bacteria and yeast 2. High expression, multi copy vectors 3. High capacity phagemids 4. High capacity, single copy vectors A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

44	2424	The restriction enzyme that makes blunt cuts in DNA is 1. Eco R I 2. Hind III 3. Bam H I 4. EcoRV A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

45	2425	What is true for plasmid? 1. Plasmids are widely used in gene transfer 2. These are found in virus 3. Plasmid contain gene for vital activities 4. These are main part of chromosome A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

46	2426	A bacterium methylates its DNA to- 1. Clone its DNA 2. Be able to transcribe many genes simultaneously 3. Begin the S-phase 4. Protect DNA from its own restriction enzymes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

47	2427	Which of the following is the DNA barcode region? 1. Cytochrome oxidase c subunit I (Folmer region) 2. Cytochrome c oxidase subunit I (Folmer region) 3. Cytochrome c oxidase subunit I (Palumbi region) 4. Cytochrome c oxidase subunit II A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

48	2428	What does BLAST stand for ? 1. Biased Local Alignment Search Tool 2. Basic Local Alignment Search Tool 3. Basic Local Alignment Score Tool 4. Basic Linked Alignment Search Tool A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

49	2429	Which of the following is the primary focus of metagenomics ? 1. Determining protein structure of the community 2. Investigating genetic material from environmental samples 3. Determining genetic mutation within population 4. Studying individual genomes of the organisms A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

50	2430	In FASTA format, the definition line must begin with 1. ">", followed by a unique SeqID 2. unique SeqID followed by a ">" 3. "#", followed by a unique SeqID 4. unique SeqID followed by a "#" A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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A4 : 4

Objective Question

51	2431	Interferons are cellular proteins produced mainly in response to 1. Virus infection 2. Bacterial infection 3. Fungus infection 4. Parasitic infection A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

52	2432	Name the process of mating of F1 hybrid to one of its parents 1. Intergressive hybridization 2. Parental line 3. Test cross 4. Back cross A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

53	2433	Who invented the process of producing monoclonal antibodies ? 1. Kary Mullis 2. Watson and Creek 3. Georges Kohler and César Milstein 4. Robert Hook A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

54	2434	Polymerase chain reaction technique was invented by ---- 1. Kary Mullis 2. Watson and Creek 3. Georges Kohler and César Milstein 4. Robert Hook A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

55	2435	Which of the following is a Fish Cell Line ? 1. RTG-2 2. Vero 3. HeLa 4. BHK21 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

56	2436	(A). Necrophagous fish are carrion-eaters. (B). Polyphagy predominate in boreal and arctic zones. (C). Ambush predators actively search and pursue the prey. (D). Temporal aphagy is typical in anadromous fish during spawning. Choose the correct answer from the options given below: 1. (A), (B) and (D) only. 2. (A), (C) and (D) only. 3. (A), (B), (C) and (D). 4. (B), (C) and (D) only. A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

57	2437	Do the hypercapnia-induced decrease of intra- and extra-cellular pH values compensate by the increase in one of the following molecules/ions? 1. Carbonate concentration 2. Nitrite content 3. Hydrogen ion concentration 4. Bicarbonate concentration A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

58	2438	Which of the following functions is not performed by epithelial 2° circulation in fish? 1. Heat exchange 2. Non-respiratory nutrient transport 3. Osmoregulation 4. Eye warming A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

59	2439	Which of the following species naturally spawn in Spring and Autumn? 1. Anabas testudineus 2. Cirrhinus mrigala 3. Tenuulosa ilisha 4. Ompok pabda A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

60	2440	Which fish secrete thread-like substances from their kidney on which eggs remain attached? 1. <i>Esox lucius</i> 2. <i>Salmo salar</i> 3. <i>Hyporhamphus affinis</i> 4. <i>Etheostoma congregata</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

61	2441	Which of the following pituitary hormones regulates oocyte maturation in fish? 1. Luteinising hormone 2. Follicle stimulating hormone 3. Thyroid stimulating hormone 4. Prolactin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

62	2442	Which is not a characteristic of a demersal egg? 1. Size >1.0 mm 2. Less specific gravity 3. Low fecundity 4. Thicker envelope A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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A4 : 4

Objective Question

63	2443	Starch and cellulose are examples of 1. Monosaccharides 2. Disaccharides 3. Polysaccharides 4. Mucopolysaccharides A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

64	2444	Triglycerides consists of 1. Three fatty acid and a phosphate group 2. Three fatty acid and a glycerol 3. Three glycerol molecules and a phosphate group 4. Three glycerol molecules and a fatty acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

65	2445	The amino acid alanine is classified 1. Non polar 2. Polar 3. Acidic 4. Basic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question				
66	2446	Which of the following fatty acids is commonly found in fish oils and is known for its health benefits 1. Palmitic acid 2. Stearic acid 3. Linoleic acid 4. omega-3-fatty acids A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
67	2447	Proline is an example for a 1. Amino acid 2. Imino acid 3. Amino acetic acid 4. Aminoaldehyde A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
68	2448	Transaldolase enzyme catalyses the transfer of _____ 1. Two carbon unit from ketose sugar to aldose sugar 2. Three carbon unit from ketose sugar to aldose sugar 3. Amino group from amino acid to keto acid 4. Keto group of sugar to L-amino acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

69	2449	The pentose phosphate pathway meets the need of all organisms for a source of 1. NAD⁺ 2. NADH 3. NADPH 4. Cytochrome A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

70	2450	The biosynthesis of glucose from non- carbohydrate sources is known as 1. Glycolysis 2. Glycogenesis 3. Glycogenolysis 4. Gluconeogenesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

71	1002901	The alternate opening and closing of ____ and ____ causes the action potential to move along the axon, and on reaching the axon terminal it triggers the ____. 1. Na⁺ K⁺ ATPase pump; voltage gated Na⁺ channels; voltage gated K⁺ channels 2. voltage gated Na⁺ channels; voltage gated K⁺ channels; voltage gated Ca²⁺ channels 3. voltage gated Na⁺ channels; Na⁺ K⁺ ATPase pump; voltage gated Ca²⁺ channels 4. voltage gated Na⁺ channels; voltage gated K⁺ channels; Na⁺ K⁺ ATPase pump A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

72	1002902	The degradation of branched chain amino acids predominantly occurs in _____, and the first step of removing the _____ group is catalysed by _____ enzyme. 1. lysosome; carboxylic; decarboxylase 2. peroxisome; R (side); hydrolytic 3. mitochondria; amino; transaminase 4. lysosome; amino; hydrolytic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

73	1002903	TNF and FasL are _____ factors that trigger the _____ apoptotic pathway leading to the activation of _____. 1. transcription; extrinsic; caspase 3/7 2. neuroactive; intrinsic; phospholipase C 3. transcription; intrinsic; adenylate cyclase 4. death; extrinsic; caspase 8 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

74	1002904	_____ causes DNA strands to separate, and this method is used to _____ denature genomic DNA during plasmid isolation. 1. Temperature; reversibly 2. Alkalinity; irreversibly 3. Acidity; reversibly 4. Temperature; irreversibly A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

75	1002905	In the Meselson and Stahl experiment, after one replication cycle of E. coli _____ is observed in density gradient centrifugation of the genomic DNA, and _____ after 2 generations. 1. one band ($N^{14}N^{15}$); two bands ($N^{14}N^{14}$ and $N^{15}N^{15}$) 2. one band ($N^{14}N^{14}$); two bands ($N^{14}N^{15}$ and $N^{15}N^{15}$) 3. one band ($N^{14}N^{15}$); two bands ($N^{14}N^{14}$ and $N^{14}N^{15}$) 4. one band ($N^{15}N^{15}$); two bands ($N^{14}N^{14}$ and $N^{15}N^{15}$) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

76	1002906	In blue-white selection, the _____ peptide produced by the plasmid vector complements the inactive _____ by providing the missing _____. 1. omega; beta-galactosidase; C terminal 2. alpha; beta-galactosidase; N-terminal 3. omega; alpha-galactosidase; active domain 4. alpha; galactosidase; C-terminal A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

77	1002907	The protein composition of a cell is not controlled by _____. 1. epigenetic modification of DNA 2. trans acting factors 3. rate of synthesis and degradation of mRNAs and proteins 4. protein kinases A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

78	1002908	Primary microRNAs are _____ RNAs with _____ structures that are processed into _____ mature miRNAs. 1. non-coding; hairpin loop; 22 bp 2. coding; double stranded; 22 bp 3. non-coding; clover leaf; 11 bp 4. coding; double stranded; 11 bp A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

79	1002909	_____ and _____ are consensus sequences found in E. coli gene promoters, and are located _____ of the transcription start site 1. CAAT box; Homeo box; upstream 2. TATA box; CAAT box; downstream 3. CAAT box; Pribnow box; upstream 4. TATA box; Pribnow box; upstream A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

80	1002910	T_m of duplex DNA increases by _____ °C for every 1% increase in _____ content. 1. 0.1; purine 2. 0.2; GC 3. 0.3; methylation 4. 0.4; GC A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

81	1002911		4.0	1.00
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		Which of the following is not a next generation sequencing platform 1. Sanger sequencer 2. Ion proton 3. Roche 4. Oxford Nanopore A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
82	1002912	Which of the following gene is used for microbial ribotyping? 1. 12S rRNA 2. 18S rRNA 3. 16S rRNA 4. 23S rRNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
83	1002913	Which of the following chemicals is used to reduce disulphide bonds 1. Mercaptoethanol 2. Isopropanol 3. Chloroform 4. Butanol A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
84	1002914		4.0	1.00

		Which of the following techniques is used to detect DNA methylation? 1. Bisulphate sequencing 2. Next Generation sequencing 3. Shot gun sequencing 4. SMRT sequencing A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
85	1002915	Limitations of microsatellites 1. Null alleles 2. Stutter bands 3. Variation in repeat number 4. Null alleles and Stutter bands A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
86	1002916	Which of the following enzymes is used to dephosphorylate plasmid DNA vectors 1. Reverse transcriptase 2. Terminal transferase 3. Alkaline Phosphatase 4. DNA ligase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
87	1002917		4.0	1.00

		The diploid chromosome number in Indian major carps is 1. 50 2. 25 3. 15 4. 35 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
88	1002918	Which is the best statement to describe polymorphism 1. Any change in the DNA sequence 2. The most common variation of a gene or marker sequence 3. The least common variation of a gene or marker sequence 4. A variation of a gene or marker sequence present in >1% of the population A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
89	1002919	Which of following PCR variant is useful for the determination of insert locations in transgenics_____ 1. Inverse PCR 2. Long PCR 3. Hot start PCR 4. Reverse transcriptase PCR A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
90	1002920		4.0	1.00

		Which of the following vectors is a phagemid 1. λZAP 2. pBluescript 3. λgt1 4. EMBL4 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

91	1002921	The process of RNA inactivation by siRNAs is termed as 1. RNA disfunction 2. Short RNA inactivation 3. RNA interference 4. RNA silencing A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

92	1002922	Which of the following enzymes is essential for site specific recombination 1. Ligase 2. Kinase 3. Integrase 4. Endonuclease A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

93	1002923		4.0	1.00
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		Formation of Holliday junction is key feature of 1. Site specific recombination 2. Transposition 3. Nick repair 4. Homologous recombination A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
94	1002924	Primase is a 1. DNA polymerase 2. RNA polymerase 3. Exonuclease 4. Endonuclease A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
95	1002925	Co-translational targeting occurs in 1. Mitochondria 2. Nucleus 3. Peroxisomes 4. Golgi complex A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
96	1002926		4.0	1.00

		National Repository of Fish Cell lines is located at 1. Kochi 2. Lucknow 3. Pune 4. Hyderabad A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
97	1002927	The pioneer in DNA fingerprinting work in India 1. Dr. Thangraj 2. Dr. W.S. Lakra 3. Dr. Lalji Singh 4. Dr. M.S. Swaminathan A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
98	1002928	Which of the following does not recognise and cut the target sites ? 1. EcoRI 2. BamHI 3. HindIII 4. Pst I A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
99	1002929		4.0	1.00

		_____ chemical is added to make bacterial cells permeable to recombinant plasmid. 1. $MgCl_2$ 2. HCl 3. $NaCl$ 4. $CaCl_2$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

100	1002930	The enzyme, which catalyzes the addition of deoxyribonucleotides to the 3'-OH of single-stranded and double-stranded DNA is 1. Endonuclease 2. DNA ligase 3. Methylase 4. Terminal Deoxynucleotidyl Transferase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

101	1002931	In a typical T4 DNA ligase reaction, which of the following acts as a cofactor 1. ATP 2. GTP 3. CTP 4. TTP A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

102	1002932		4.0	1.00
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		What is the name of the enzyme responsible for recognising and opening up the DNA during the CRISPR-Cas9 gene editing system? 1. Cas9 2. CRISPR 3. RNA polymerase 4. Ligase A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

103	1002933	Metagenomics is particularly useful in which of the following ? 1. Biodiversity and functional aspect of microbial communities 2. Investigating individual microbial species 3. Identifying disease causing genes 4. Assessing genetic mutation in a population A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

104	1002934	In sequencing, the Phred quality score 20 indicates the likelihood of finding 1. 1 incorrect base call among 100 bases 2. 20 incorrect base call among 100 bases 3. 1 incorrect base call among 20 bases 4. 20 correct base calls among 100 bases A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

105	1002935		4.0	1.00
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		In genomics, BUSCO stands for 1. Benchmarking Universal Single-Copy Orthologs 2. Benchmarking Unique Single-Copy Orthologs 3. Best Universal Single-Copy Orthologs 4. Benchmarking Universal Single-Copy Only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
106	1002936	Which of the following marine bacteria is Nitrogen fixer? 1. Pseudomonas piscida 2. Cyanobacteria 3. Thiobacillus thiooxidans 4. Pseudomonas putida A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
107	1002937	The Calvin Benson cycle catalyzes fixation of ----- 1. CO₂ 2. N₂ 3. NH₄ 4. SO₂ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
108	1002938		4.0	1.00

Fucoxanthin is a -----

1. carotenoid
2. alkaloid
3. terpenoid
4. thylakoid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109 1002939

Which of the following is a marine cyanobacterium?

1. Pseudomonas
2. Laurencia glandulifera
3. Synechococcus
4. Thiobacillus

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

110 1002940

Molting hormones from marine invertebrates belong to -----

1. terpenoids
2. isoprenoids
3. quinones
4. steroids

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

111 1002941

4.0

1.00

		Which bioactive metabolites can be isolated from sea cucumbers ? 1. Saponin 2. Safranin 3. Acrydine 4. Quinone A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
112	1002942	A number of terpenoids are synthesized by gorgonian, the other name for ----- 1. molluscs 2. ciliates 3. soft corals 4. whales A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
113	1002943	The unusual nucleoside spongothymidine is isolated from ----- 1. marine sponge 2. marine algae 3. marine archae 4. marine cyanobacteria A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
114	1002944		4.0	1.00

		Tiger trout is ----- 1. Intrageneric hybrid 2. Intergeneric hybrid 3. Clone 4. GMO fish A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
115	1002945	Which of the following is gram-positive bacteria 1. Vibrio 2. Bacillus 3. Pseudomonas 4. Salmonella A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
116	1002946	Ceratium is ----- 1. Diatom 2. Dinoflagellate 3. B.G.A 4. Red algae A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
117	1002947		4.0	1.00

		In oviparous animals the source of nutrition for embryo is 1. pellet feed 2. yolk 3. live feed 4. wheat bran A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
118	1002948	Inulin is type of 1. Prebiotic 2. Probiotic 3. Vaccine 4. Drug A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
119	1002949	Costiasis Disease in fish is caused by 1. Virus 2. Fungus 3. Parasite 4. Protozoan A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
120	1002950		4.0	1.00

The main constituent unit of inulin is -----

1. Glucose
2. Fructose
3. Mannose
4. Galactose

A1 : 1

A2 : 2

A3 : 3

A4 : 4