

PREVIEW QUESTION BANK

Module Name : Fish Physiology and Biochemistry - 58-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
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
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

A3 : 3

A4 : 4

Objective Question

7	207	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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are correct. - Both Statement (I) and Statement (II) are incorrect. - Statement (I) is correct but Statement (II) is incorrect. - Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

8	208	The local name of cyclone in Phillippines is - Hurricane - Cyclone - Baquo - Typhoon A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

9	209		4.0	1.00
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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	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	4.0	1.00
Objective Question				
25	2405	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	4.0	1.00
Objective Question				
26	2406	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	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	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
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
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

		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
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
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

A2 : 2

A3 : 3

A4 : 4

Objective Question

42 2422

4.0

1.00

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

Objective Question

43 2423

4.0

1.00

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

Objective Question

44 2424

4.0

1.00

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

		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
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
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

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 Köhler 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 Köhler 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 2^0 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. Tenulosa 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?	4.0	1.00
		1. Esox lucius 2. Salmo salar 3. Hyporhamphus affinis 4. Etheostoma congregata		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

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

Objective Question

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

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
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
Objective Question				
71	1002951	Which type of apical surface appears on the mitochondrial cells in the gill epithelium during hypo-osmoregulation? 1. Shallow hole 2. Deep hole 3. Wavy appearance 4. Flat surface A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
72	1002952		4.0	1.00

The largest proteins in antifreeze glycoprotein contain repetitive units of one of the following three amino acids

1. Proline-proline-alanine
2. Proline-alanine-threonine
3. Alanine-alanine-threonine
4. Alanine-alanine-proline

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73	1002953	Given below are two statements: Statement (I): Fish can exhibit a cumulative response to repeated stressors. Statement (II): Repeated exposures to mild stressors can attenuate the neuroendocrine and metabolic responses to subsequent exposure to stressors. In light of the above statements, choose the <i>most appropriate</i> 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	4.0	1.00
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Objective Question

74	1002954	Which is a form of ammonia excreted by the gills of saltwater fish? 1. NH_3 only 2. NH_4^+ only 3. Urea 4. Both NH_3 and NH_4^+ A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
75	1002955	Which prime ion transporter influences the absorption of both Na⁺ and Cl⁻ by both Na⁺/Cl⁻ and Na⁺/K⁺/2Cl⁻-cotransporters? 1. Apical Cl⁻/HCO₃⁻ exchanger 2. H⁺-ATPase 3. Na⁺/H⁺ exchanger 4. Na⁺/K⁺-ATPase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
76	1002956	In the absence of a functional ornithine urea cycle, ammonia is detoxified to the following amino acid in the brain 1. Arginine 2. Glycine 3. Glutamine 4. Proline A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
77	1002957	Which of the following is not an orexigenic factor in fish larvae? 1. Galanin 2. Neuropeptide Y 3. Amylin 4. Apelin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
78	1002958	C-reactive protein was named because of its reactivity with one of the following residues of the C-polysaccharide of the teichoic acid of pneumococcal bacteria. 1. Phosphatidic acid 2. Cardiolipin 3. Phosphoprotein 4. Phosphatidylcholine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
79	1002959	Which of the following teleost is ureotelic? 1. Tinca tinca 2. Opsanus beta 3. Onchorhynchus mykiss 4. Anguilla anguilla A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
80	1002960	Characteristic cortisol elevations of fishes in response to acute stressors generally tend to range within the following limit with a few notable exceptions. 1. 10-450 ng/ml 2. 50-1000 ng/ml 3. 30-300 ng/ml 4. 5-25 ng/ml A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
81	1002961	Which species does not exhibit sequential hermaphrodism? 1. Tenuulosa toli 2. Gymnothorax pictus 3. Bathymicrops regis 4. Ipnots meadi A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
82	1002962	High temperature changes the sex ratio towards male phenotypes in African catfish. So, the species will be categorised as 1. Genotypic dependent sex determination (GSD) 2. Temperature-dependent sex determination (TSD) 3. GSD + temperature 4. TSD + environment action A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
83	1002963	Which of the following species has ZW sex chromosomes? 1. Cyprinus carpio 2. Oreochromis niloticus 3. Oryzias latipes 4. Oreochromis aureus A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
84	1002964		4.0	1.00

		Which fish deposit eggs in the siphon of freshwater mussels through the ovipositor?		
		1. Pomatoschistos minutus 2. Rhodeus amarus 3. Etheostoma congregata 4. Haplochromis burtoni		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

85	1002965	Which of the following gene plays a crucial role in the induced methylation of Cyp19a promoter in temperature masculinisation in fish?	4.0	1.00
		1. Anti-mullarian hormone Y (amhy) 2. Forkhead Box L2 (foxl2) 3. Doublesex And Mab-3 Related Transcription Factor 1 (dmrt1) 4. Gonadal soma-derived growth factor (gsdf)		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

86	1002966	Which is a dye for staining Cortical alveoli in teleost oocytes?	4.0	1.00
		1. Protein & carbohydrate 2. Lipid & carbohydrate 3. Carbohydrates & nucleic acid 4. Lipid & protein		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

87	1002967	Which extrahepatic tissue synthesises vitellogenin? 1. Kidney 2. Spleen 3. Intestine 4. Testis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

88	1002968	Sertoli cells possess maximum cyst volume during which stage of meiosis prophase of during spermatogenesis? 1. Leptotene 2. Zygotene 3. Pachytene 4. Diplotene A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

89	1002969	Which fish lacks acrosome in spermatozoa? 1. Hagfish 2. Paddlefish 3. Sturgeons 4. Atlantic croaker A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

90	1002970		4.0	1.00
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Which gene is not responsible for milt hydration in teleost?

1. ATPase1b
2. Aquaporin 4
3. Potassium pore domain channel subfamily K15
4. Insulin-like growth factor

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

91 1002971 4.0 1.00

Which factor is responsible for the hardening of the chorion?

1. Mg²⁺ ions
2. K⁺ ions
3. Alveolar colloid
4. Phospholipase A

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

92 1002972 4.0 1.00

The pineal organ appears on the roof of which brain region?

1. Diencephalon
2. Telencephalon
3. Mesencephalon
4. Metencephalon

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93 1002973 4.0 1.00

Which is not a function of KISSPEPTINE 1 in fish?

1. Regulating dopamine secretion
2. Nutritional intervention
3. Metabolic activity
4. Response to photoperiodicity

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

94 1002974

Which hormones do not belong to Crustacean Hyperglycemic Hormone-family peptides?

1. Vitellogenin inhibiting hormone
2. Molt inhibiting hormone
3. Mandibular-organ inhibiting hormone
4. Serotonin

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

95 1002975

Which following hormone receptors do not have high structural homology?

1. Estrogen
2. Glucocorticoid
3. Thyroid hormone
4. Vasopressin

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

96 1002976

4.0 1.00

What distinguishes a coenzyme from a cofactor

1. Coenzymes are always metal ions, while cofactors are not
2. Coenzymes are required for all enzyme activity, while cofactors are not
3. Coenzymes are organic molecules, while cofactors are usually metal ions or inorganic
4. Coenzymes provide structural support to the enzyme

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97 1002977

Affinity chromatography is often used to

1. Separate compounds based on their size
2. Separate specific molecules based on a unique binding interaction
3. Separate compounds based on their boiling point
4. Separate compounds based on their hydrophobicity

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

98 1002978

The mucopolysaccharide predominantly found in cartilage and contributes to its compressive strength is

1. Hyaluronic acid
2. Heparan sulfate
3. Dermatan sulphate
4. Chondroitin sulphate

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

99 1002979

4.0

1.00

		Enzyme activity is typically measured in 1. Moles per liter 2. International units (IU) 3. Grams per liter 4. Kilocalories per mole A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

100	1002980	Catalase is an enzyme that 1. Catalyzes the breakdown of hydrogen peroxide into water and oxygen 2. Catalyzes the breakdown of lactose into glucose and galactose 3. Catalyzes the conversion of urea into ammonia and carbon dioxide 4. Catalyzes the conversion of pyruvate into lactate A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

101	1002981	Which of the following components of a spectrophotometer is responsible for selecting specific wavelengths of light? 1. Monochromator 2. Detector 3. Light source 4. Sample holder A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

102	1002982		4.0	1.00
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Gas chromatography separates volatile compounds based on their

1. Solubility in water
2. High pressure
3. Molecular weight
4. Boiling points

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

103 1002983

Which of the following is a common polysaccharide found in the cell walls of fungi and exoskeletons of arthropods?

1. Chitin
2. Starch
3. Cellulose
4. Glycogen

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

104 1002984

Which of the following monosaccharides is commonly found in honey and is sweeter than glucose?

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

105 1002985

4.0 1.00

Hemoglobin is an example of

1. Structural protein
2. Contractile protein
3. Enzyme
4. Transport Protein

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

106 1002986

Which of the following amino acids is classified as aromatic?

1. Alanine
2. Phenylalanine
3. Glycine
4. Aspartic acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

107 1002987

The amino acid tryptophan is important for

1. Absorption of calcium
2. Regulation of blood sugar levels
3. Synthesis of serotonin
4. Providing structural support to proteins

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

108 1002988

4.0 1.00

Which of the following is true about unsaturated fatty acids?

1. They are solid at room temperature
2. They contain no double bonds in their carbon chains
3. They have higher melting points compared to saturated fatty acids
4. They contain one or more double bonds in their carbon chains

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109	1002989	Vitamin K is crucial for 1. Maintaining healthy vision 2. Blood clotting 3. Bone health 4. Red blood cell production A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

110	1002990	Zinc is involved in 1. Thyroid hormone synthesis 2. Wound healing and immune function 3. Blood glucose regulation 4. Vitamin D metabolism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

111	1002991		4.0	1.00
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		The carrier molecule, which is required to transport an activated Acyl CoA molecule from cytosol to mitochondrial matrix for β- oxidation, is 1. Oxaloacetate 2. Acetoacetate 3. Citrate 4. Carnitine A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

112	1002992	During starvation, oxaloacetate is consumed to form glucose by the gluconeogenesis and hence is unavailable for condensation with acetyl CoA in fish. Under this condition, Acetyl CoA of mitochondria, produced by β- oxidation of fatty acid is diverted to the formation of 1. α- keto glutamate 2. Alanine 3. Acetoacetate 4. Citrate A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

113	1002993	The precursor of prostaglandin biosynthesis in fish and higher animals is 1. Linolenic acid 2. Linoleic acid 3. Cholesterol 4. Arachidonic acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question				
114	1002994	The net reaction of the citric acid cycle is 1. Acetyl CoA +3NAD⁺ +FAD+2H₂O→2CO₂ +3NADH +FADH₂ +3H⁺ + HS-CoA 2. Acetyl CoA +3NAD⁺ +FAD+Oxaloacetate+2H₂O→Citrate +3NADH +FADH₂ +GTP+3H⁺ + HS-CoA 3. Acetyl CoA +3NAD⁺ +FAD+GDP+ Pi+2H₂O→2CO₂ +3NADH +FADH₂ +GTP+3H⁺ + HS-CoA 4. Acetyl CoA +3NAD⁺ +FAD + ADP+ Pi+2H₂O→2CO₂ +3NADH +FADH₂ +ATP+3H⁺ + HS-CoA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
115	1002995	Insulin, a polypeptide hormone, secreted by the β-cells of the pancreatic islets of Langerhans, induces 1. Glycolysis 2. Glycogenesis 3. Glycogenolysis 4. Gluconeogenesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
116	1002996	NADH, generated in energy yielding reactions of cytosol, is transported to mitochondria through 1. NAD⁺ dependent carrier 2. NAD⁺ dependent transporter 3. NADH dependent transporter 4. Glycerol-3-phosphate shuttle A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
117	1002997		4.0	1.00

_____ is the prosthetic group of alanine aminotransferase (AST), which is responsible for transferring the amino group of alanine to α - keto glutamate,

1. Thiamine pyrophosphate (TPP)
2. Pyrophosphate (PPi)
3. Pyridoxal phosphate (PLP)
4. S-adenosyl-L-methionine (SAM)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

118	1002998	Catabolism of the amino acid into succinyl CoA as entry point into Kreb's cycle is 1. L-methionine 2. L-Glutamate 3. L- leucine 4. L-lysine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

119	1002999	In fish, usually ammonia or ammonium ions is formed from the glutamate by oxidative deamination. This reaction is catalyzed by 1. Glutaminase 2. Glutamate dehydrogenase 3. Glutamate decarboxylase 4. Glutamine synthetase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

120	1003000	In salvage reactions of purine biosynthesis, the enzymes are responsible for the transfer of activated ribose phosphate moiety of 5-Phosphoribosyl-1-Pyrophosphate (PRPP) to purine to form the corresponding ribonucleotides, are 1. 5-phosphoribosyl 1- pyrophosphate (PRPP) synthetase and hypoxanthine- guanine phosphoribosyl transferase (HGPRT) 2. Adenine phosphoribosyl transferase (APT) and hypoxanthine- guanine phosphoribosyl transferase (HGPRT) 3. Carbamoyl phosphate synthetase 1 and hypoxanthine- guanine phosphoribosyl transferase (HGPRT) 4. Hypoxanthine- guanine phosphoribosyl transferase (HGPRT) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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