

PREVIEW QUESTION BANK

Module Name : Fish Physiology and Biochemistry-ENG
Exam Date : 09-Jul-2023 Batch : 14:30-16:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	2001	Which one of the following is not one of the features of parliamentary form of government? 1. Majority party rule 2. Collective Responsibility 3. Integrated and Independent Judiciary 4. Dissolution of the lower house A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	2002	Which of the following term implies that 'India is a neither a dependency nor a dominion of any other nation'? 1. Socialist 2. Sovereign 3. Secular 4. Democratic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	2003	Which of the following form the maximum water composition on the earth's surface? 1. Oceans 2. Ice caps 3. Glaciers 4. Lakes A1 : 1 A2 : 2	4.0	1.00

		A3 : 3		
		A4 : 4		
Objective Question				
4	2004	Which one of the following does not fall under the category of 'biomes? 1. Forest 2. Sky 3. Desert 4. Grassland A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
5	2005	IUCN publishes information about which of the following species as Red List of threatened species? 1. Endangered Species 2. Vulnerable Species 3. Extinct Species 4. Rare Species A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
6	2006	Who was the first Indian to win an individual medal in Olympics? 1. Milkha Singh 2. Karnam Malleshwari 3. P. T. Usha 4. K. D. Jadhav A1 : 1 A2 : 2 A3 : 3	4.0	1.00

		A4 : 4		
Objective Question				
7	2007	Who among the following reformers founded "Arya Samaj"? 1. Raja Ram Mohan Roy 2. Swami Dayananda Saraswati 3. Atmaram Pandurang 4. Ishwarchandra Vidyasagar A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
8	2008	What does "Triratna" mean in Buddhism? 1. Tripitaka 2. Buddha, Dhamma (dharma), Sangha 3. Satya, Ahimsa, Karuna 4. Sheel, Samadhi, Sangha A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
9	2009	Who started the Indian Reforms Association? 1. Narayan Guru 2. Swami Vivekananda 3. Krishna swami Aiyar 4. Keshav Chandra Sen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				

10	2010	Consider the following statements (A). UN General Assembly has declared 2023 as the international year of millets (B). Odisha govt. ropes in FICCI to promote millets globally (C). Odisha Millets Mission is a flagship programme of the Odisha government to revive millets in farms and on plates Choose the correct answer from the options given below: 1. (A) and (B) only. 2. (B) and (C) only. 3. (A) and (C) only. 4. (A), (B) and (C). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

11	2011	Phomopsis blight occurs in which of the following crops? 1. Brinjal 2. Bajra 3. Sugarcane 4. Potato A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

12	2012	Endemic pests can be described as? 1. Pest occurs in a few specific area. 2. Pest occurs in same area, year after year. 3. Pest occurs frequently in current season in abundance. 4. Pest occurs in severe form. A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
13	2013	Which country is the largest producer of raw silk? 1. Japan 2. India 3. China 4. South Korea A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
14	2014	Transfer of Ownership is the example of which utility..... 1. Time utility 2. Place utility 3. Possession utility 4. Form utility A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
15	2015	What happens to the total number of chromosomes during mitotic cell division? 1. gets doubled 2. gets halved 3. remains the same 4. divides into four A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

16	2016	What is the minimum forest cover to be maintained as per the National Forest Policy, 1988? 1. One-half 2. One-third 3. One-fourth 4. Two-third A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

17	2017	Who among the following is known as the "Father of Agronomy"? 1. Stephen Hales 2. Gregor Johann Mendel 3. Peter Decresenzi 4. D N Walia A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

18	2018	Which of the following plant hormones helps in shoot elongation? 1. Auxin 2. Gibberellic acid 3. Absciscic acid 4. Cytokinin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

19	2019		4.0	1.00
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Select from the following the chemical property of soil.....

1. Colour
2. pH
3. Texture
4. Structure

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

20 2020

The process of separating quality grains from chaff is called as.....

1. Winnowing
2. Threshing
3. Harvesting
4. Tilling

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

21 141001

For a particular trait, the phenotypic variance is 20, and genetic variance is 4. The broad sense heritability is

1. 80
2. 5
3. 0.2
4. 24

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

22 141002

4.0

1.00

The phenotypic variance for a particular trait is 20 and the environmental deviation is 4. The genotypic variance is

1. 5
2. 16
3. 24
4. 80

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 141003 4.0 1.00

The additive genetic value for a trait is 4, dominance deviation is 8 and genotypic value is 20. The interaction deviation is

1. 32
2. 52
3. 8
4. 10

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 141004 4.0 1.00

The heritability for a particular trait is 0.4 and the phenotypic variance is 10. The additive genetic variance is

1. 4
2. 10.4
3. 9.6
4. 10.16

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 141005 4.0 1.00

In a hatchery, the effective population size of Rohu population is 25. The likely rate of inbreeding is

1. 0.01
2. 0.02
3. 0.1
4. 0.04

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26	141006	The Amur carp, popular in India is a fast-growing strain of 1. Rohu 2. Catla 3. Silver carp 4. Common carp A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

27	141007	The zebrafish research centre developed at ICAR-CIFE is called as 1. ZIRC 2. EZRC 3. CZRC 4. CZeBraG A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

28	141008		4.0	1.00
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		ICAR-CIBA is conducting the genetic improvement program of which shrimp species? 1. <i>Penaeus indicus</i> 2. <i>Penaeus monodon</i> 3. <i>Penaeus merguensis</i> 4. <i>Penaeus vannamei</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
29	141009	The genetic improvement program in India to develop a suitable saline-tolerant species for inland saline states of India is targeted towards which species? 1. Common carp 2. Grass carp 3. Silver carp 4. Rohu A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
30	141010	The catfish species wherein the genetic improvement program being conducted for harvest bodyweight in India is 1. <i>Clarias gariepinus</i> 2. <i>Clarias magur</i> 3. <i>Clarias batrachus</i> 4. <i>Channa striata</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
31	141011		4.0	1.00

		The genetic improvement program of freshwater prawn <i>Macrobrachium rosenbergii</i> is conducted at 1. ICAR-CIFA 2. ICAR-CIFE 3. ICAR-NBFGR 4. ICAR-CIBA A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
32	141012	GMT strain stands for 1. Genetically Modified Tilapia 2. Genetically Male Tilapia 3. Genetically Mature Tilapia 4. Georgia Male Tilapia A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
33	141013	Aqua Advantage Salmon is a 1. Selectively bred strain of salmon 2. Monosex strain of salmon 3. All female strain of salmon 4. Genetically modified salmon A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
34	141014		4.0	1.00

		Cross-breeding of two divergent strain may result in 1. Inbreeding depression 2. Hybrid vigour 3. Sterile progeny 4. Triploid progeny A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
35	141015	The sex determination system in Indian major carps is 1. ZZ-ZW 2. XX-XY 3. ZZ-ZO 4. XX-XO A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
36	141016	The following is true with respect to quantitative traits 1. Non normal distribution 2. Monogenic traits 3. Exhibit discrete classes 4. Display continous variation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
37	141017		4.0	1.00

For a population to be in Hardy Weinberg Equilibrium, the following is not an assumption

1. Absence of mutation
2. Absence of migration
3. Absence of genetic selection
4. Absence of random mating

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

38	141018	The following trait usually exhibits high heritability 1. Survival 2. Fecundity 3. Growth 4. Age at maturity A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

39	141019	The following marker exhibits higher rate of polymorphism 1. SNP 2. RAPD 3. CytB 4. Microsatellite A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

40	141020		4.0	1.00
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The following is known as Father of Animal Breeding

1. Ronald Fisher
2. Gregor Mendel
3. Charles Darwin
4. Jay Lush

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

41	141021	Which of the following is NOT a type of point mutation?	4.0	1.00
1. Silent mutation 2. Missense mutation 3. Nonsense mutation 4. Frameshift mutation				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

42	141022	What is the ideal A_{260}/A_{280} ratio for pure RNA?	4.0	1.00
1. 1.0 2. 1.5 3. 1.8 4. 2.0				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

43	141023		4.0	1.00
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What is the function of isoamyl alcohol in DNA isolation?

1. To denature proteins
2. To extract hydrophobic lipids
3. To prevent foaming during extraction
4. To dissolve DNA

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

44	141024	Which statements about the leading and lagging strands during DNA replication are correct?	4.0	1.00
1. Both strands are synthesized in the same direction. 2. The leading strand is synthesized in the 3' to 5' direction. 3. The lagging strand is synthesized in the 5' to 3' direction. 4. Both strands are synthesized continuously.				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

45	141025	Which of the following is not a component of a eukaryotic gene?	4.0	1.00
1. Operon 2. Exon 3. Intron 4. Promoter				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

46	141026		4.0	1.00
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What type of bond connects nucleotides together to form a DNA strand?

1. Hydrogen bond
2. Ionic bond
3. Phosphodiester bond
4. Covalent bond

A1 : 1

A2 : 2

A3 : 3

A4 : 4

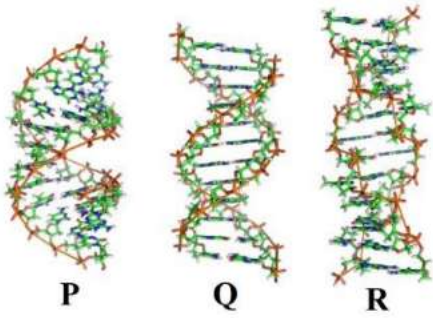
Objective Question

47	141027	Which of the following is NOT a step in the PCR process?	4.0	1.00
1. Denaturation 2. Annealing 3. Ligation 4. Extension				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

48	141028	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Fermentation can be considered as biotechnology. Reason (R): Biotechnology is defined as the application of biological entities to produce products and services. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below . 1. Both (A) and (R) are correct and (R) is the correct explanation of (A). 2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A). 3. (A) is correct but (R) is not correct. 4. (A) is not correct but (R) is correct.	4.0	1.00
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question				
49	141029	Which of the following organelles is responsible for detoxifying harmful substances in a eukaryotic cell? 1. Lysosome 2. Golgi apparatus 3. Endoplasmic reticulum 4. Peroxisome A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
50	141030	Given below are two statements: Statement (I): Ribosomes are not cell organelles Statement (II): Ribosomes don't have a membrane 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 true. 2. Both Statement (I) and Statement (II) are false. 3. Statement (I) is true but Statement (II) is false. 4. Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
51	141031		4.0	1.00



In the above image, P, Q, R represents

1. P: Z-DNA; Q: A-DNA; R: B-DNA
2. P: A-DNA; Q: Z-DNA; R: B-DNA
3. P: A-DNA; Q: B-DNA; R: Z-DNA
4. P: Z-DNA; Q: B-DNA; R: A-DNA

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52	141032	Which of the following macromolecule has peptidyl transferase activity during translation?	4.0	1.00
1. tRNA synthetase 2. Ribosomal RNA 3. Elongation factor Tu 4. Elongation factor G				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

53	141033	What is the function of primase in DNA replication?	4.0	1.00
1. Primase synthesizes RNA primers that serve as starting points for DNA synthesis. 2. Primase adds nucleotides to the growing DNA strand. 3. Primase unwinds the double helix of DNA. 4. Primase proofreads the newly synthesized DNA strand.				
A1 : 1				

		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
54	141034	In eukaryotic cells, transcription occurs in 1. The cytoplasm 2. The nucleus 3. The mitochondria 4. Both the nucleus and cytoplasm. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
55	141035	Most living organisms have DNA as their genetic material. Why is RNA not selected as the genetic material for life on Earth? 1. RNA is double-stranded and less chemically stable than DNA 2. RNA contains the unstable base thymine instead of uracil found in DNA 3. RNA is more prone to spontaneous hydrolysis than DNA 4. RNA is a catalytic molecule that is not suited for storage of genetic information A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
56	141036	Which is the final donor of methyl group in biological system? 1. Methyl cobalamine 2. S-adenosyl Methionine 3. Lecithin 4. Choline A1 : 1 A2 : 2 A3 : 3	4.0	1.00

		A4 : 4		
Objective Question				
57	141037	Most widely used masculinising agent for fishes 1. 11-keto testosterone 2. 17 α-methyl testosterone 3. Dihydroxyprogesterone 4. Corticosterone A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
58	141038	Which of the following are the position of double bonds in arachidonic acid? 1. 2,5,8,11 2. 3,6,9,12 3. 4,7,10,13 4. 5,8,11,14 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
59	141039	Which of the following is a potent vasodilator? 1. Nitric oxide 2. Endothelin 3. Angiotensin 2 4. Vasotocin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

60	141040	Which of the following is an epigenetic mechanism by which gene expression can be downregulated?	4.0	1.00
		1. Phosphorylation 2. Acidification 3. Methylation 4. Acetylation		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

61	141041	Which statement is true about MPC (mitochondrial pyruvate carrier)?	4.0	1.00
		1. MPC is responsible for the conversion of pyruvate to acetyl-CoA. 2. MPC is located in the cytoplasm of cells. 3. MPC consists of three subunits: MPC1, MPC2, and MPC3. 4. MPC facilitates the transport of pyruvate across the mitochondrial membrane.		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

62	141042	Which enzyme is the most important ion transport enzyme in crustaceans that maintains and regulates haemolymph osmotic pressure?	4.0	1.00
		1. Na⁺/K⁺-ATPase pump 2. Protein kinase A 3. Ca Mg ATPase 4. FXD2 phosphorylase		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

63	141043	Given below are two statements: Statement (I): Iodine number is used as a measure of unsaturation of oils. Statement (II): Acid number values are similar to the free fatty acid value. 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

64	141044	Which of the following wave of ECG represent ventricular repolarisation? - P wave - QRS wave - AV wave - T wave A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

65	141045	Anodic, but temperature-insensitive haemoglobin is present in - Salmon - Tuna - Carp - Tench A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

66	141046	Which of the following has a transmembrane receptor? 1. Testosterone 2. Cortisol 3. Thyroid-stimulating hormone 4. Thyroxine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

67	141047	Which of the following enzyme is involved in the conversion of EPA to DHA? 1. Δ -4 desaturase 2. Δ -5 desaturase 3. Δ -6 desaturase 4. Δ -9 desaturase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

68	141048	Which is the vitamin involved in the synthesis of corticosteroid hormone? 1. A 2. C 3. E 4. K A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

69	141049		4.0	1.00
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The main chemical messenger secreted by neuroepithelial (NEC) of teleosts

1. Serotonin
2. Acetyl choline
3. GABA
4. Epinephrine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70	141050	Which of the following vitellogenin lack phosvitin?	4.0	1.00
1. VtgA 2. VtgB 3. VtgC 4. VtgD				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

71	1002951	What is the effect of hypoxia on interlamellar cell mass in some fish species, such as carp?	4.0	1.00
1. It remains unchanged 2. It increases in size 3. It disappears 4. It becomes more densely packed				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

72	1002952		4.0	1.00
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How can nitrosohemoglobin be converted back to NO and haemoglobin?

1. In hypoxic conditions
2. In normoxic conditions
3. In high oxygen conditions
4. In low carbon dioxide conditions

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73	1002953	What is the function of the sodium pump in erythrocytes? 1. To increase the concentration of sodium ions inside the cell. 2. To decrease the concentration of sodium ions inside the cell. 3. To maintain the cell membrane's impermeability to sodium ions. 4. To extrude sodium ions out of the cell. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

74	1002954	Which of the following is true regarding the effect of oxidation on the oxygen affinity of haemoglobin? 1. Oxidation of haemoglobin shifts the equilibrium between T-state and R-state towards T-state. 2. The three-dimensional structure of methemoglobin resembles T-state more closely than R-state. 3. Partial oxidation of haemoglobin shifts the equilibrium between T-state and R-state towards R-state 4. At high oxygen tensions, haemoglobin assumes T-state A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

75	1002955		4.0	1.00
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What haematocrit value would be considered anemic for rainbow trout?

1. <10%
2. <20%
3. <40%
4. <50%

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

76	1002956	Given below are two statements: Statement (I): <i>Pagothenia borchgrevinki</i>, have adapted to a very low routine Hct. Statement (II): <i>Pagothenia borchgrevinki</i> store unusually large amount of RBC in their spleen. 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

77	1002957	Which chamber in fish heart contributes most to the generation of blood pressure? 1. Atrium 2. Ventricle 3. Sinus venosus 4. Bulbus arteriosus A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question				
78	1002958	Given below are two statements: Statement (I): The extraction of serotonin by gills is higher than that of epinephrine. Statement (II): Gills are more selective in removing arachidonic acid than that of prostaglandins. 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

Objective Question				
79	1002959	The apical chloride channels found in the gills of the fish are also known as: 1. ENaC 2. CFTR 3. ROMK 4. NKCC A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
80	1002960	Given below are two statements: Statement (I): Glycogen clusters in the form of β-particles and fat droplets are found in the spaces between myofibrils and mitochondria. Statement (II): The quantity of muscle glycogen store varies between species, according to feeding status, energy stores, and season. 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	4.0	1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

81	1002961	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Stenohaline marine reef fishes (e.g., angel fish, puffer, gray snapper, and horse-jack) were found in calcium-rich freshwater lakes. Reason (R) : Calcium can increase passive entry of ions into the gills. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both (A) and (R) are correct and (R) is the correct explanation of (A). - Both (A) and (R) are correct but (R) is NOT the correct explanation of (A). (A) is correct but (R) is not correct. (A) is not correct but (R) is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

82	1002962	Which mechanisms are involved in the secretion of H⁺ ions into the filtrate in the renal system, and which specific transporters are responsible for this process in rainbow trout? - Passive diffusion and facilitated transport by SLC26 family carriers. - Active K⁺/H⁺ exchange and passive diffusion through aquaporins. - Electroneutral Cl⁻/HCO₃⁻ exchange and active HCO₃⁻ pumping by SLC4 family carriers. - Electroneutral Na⁺/H⁺ exchange and active H⁺ pumping by V-type H⁺-ATPase. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

83	1002963		4.0	1.00
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Given below are two statements:

Which of the following statement is correct about catfish liver mitochondria

Statement (I): Ammonia exits the mitochondrial matrix as NH_3 , not as NH_4^+ .

Statement (II): Carbon dioxide exits the mitochondria mainly as CO_2 gas, not as HCO_3^- .

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

84	1002964	Which of the following is not a reason for the hypoxia tolerance of crucian carp?	4.0	1.00
		1. Ethanol production from lactate 2. Reflex bradycardia 3. Increase in stroke volume 4. Decrease in cellular pH by glycolysis		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

85	1002965	Which of the following compound is known as transcortin, which reduces the bioavailability of cortisol in rainbow trout?	4.0	1.00
		1. Estradiol 2. Cortisol binding globulin 3. Testosterone 4. Cortisol binding albumin		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

86	1002966	Given below are two statements: Statement (I): Antifreeze glycoproteins glycosylates at threonine residues of repeating Ala-Ala- Thr motifs. Statement (II): Type 1 antifreeze proteins are non-glycosylated antifreeze proteins. 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

87	1002967	Given below are two statements: Statement (I): Cyp-19 is the gene responsible for aromatase. Statement (II): Cyp-19 is a male-specific gene involved in sex determination. 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

88	1002968	Which amino acid is the precursor of L-Kynurenine, a female salmon pheromone that stimulates sexual behaviour in male fish? - Tryptophan - Tyrosine - Phenylalanine - Methionine A1 : 1	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

89	1002969	Given below are two statements: Statement (I): Amazon molly, <i>Poecilia formosa</i>, females reproduce asexually, and do not require any DNA contribution from males. Statement (II): <i>Poecilia formosa</i>, requires sperm from closely related species' males to initiate embryo development. 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

90	1002970	Which of the following enzyme activity is distinctively enhanced in the ovaries during final oocyte maturation and spawning? - P450 Side chain cleavase - MoS kinase - p450 17-α lyase - p450 17-α hydroxylase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

91	1002971		4.0	1.00
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Which phase of spermatogenesis involves the reshuffling of paternal and maternal genetic information via crossing over?

1. Spermatogonia phase
2. First meiotic division
3. Second meiotic division
4. Spermiogenic phase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

92	1002972	Which hormone has been associated with stimulating fanning behaviour of stickle back and increased production of mucus secretions in discus?	4.0	1.00
		1. Prolactin 2. Testosterone 3. Isotocin 4. Estradiol		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

93	1002973	Which type of receptors are catecholamines known to bind to?	4.0	1.00
		1. RTK 2. GPCR 3. Non-RTK 4. Ligand-gated ion channels		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

94	1002974		4.0	1.00
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Given below are two statements:

Statement (I): Glucagon increases protein synthesis.

Statement (II): Glucagon inhibits lipolysis in adipocyte.

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

95	1002975	What is the hormone released by the androgenic gland in crustaceans responsible for male sexual differentiation? 1. Insulin-like androgenic gland hormone 2. Insulin hormone 3. Testosterone 4. Progesterone A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

96	1002976	How is sex reversal achieved in <i>Macrobrachium rosenbergii</i>? (A). Surgical removal of AG (B). Surgical implantation of AG (C). RNA interference targeting IAG Choose the correct answer from the options given below: 1. (A) only 2. (A) and (B) only 3. (A) and (C) only 4. (A), (B) and (C) A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
97	1002977	Which is the type of sex determination system in <i>Penaeus vannamei</i>? 1. Homozygous females, XY ♂/XX ♀ 2. Homozygous males, ZZ ♂/ZW ♀ 3. Multiple sex chromosomes, X1X1X2X2♀/X1X2Y♂ 4. Single sex chromosome, XX ♀/X0 ♂ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
98	1002978	Which of the following is the most abundant neuropeptide in sinus gland? 1. MIH 2. VIH 3. CHH 4. RPCH A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
99	1002979	Which of the following gene encodes for brain aromatase in fish? 1. Cyp 19 a1 2. Cyp 19 b1 3. Cyp 17 a1 4. Cyp 17 b1 A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

100	1002980	Which of the following biomolecules is the largest?	4.0	1.00
		1. Carbohydrates 2. Lipids 3. Proteins 4. Nucleic acids		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

101	1002981	How many stereoisomers are possible for pyruvate?	4.0	1.00
		1. Zero 2. Two enantiomers 3. Three diastereomers 4. Four stereoisomers		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

102	1002982	What is the product formed when the linear form of glucose undergoes cyclization?	4.0	1.00
		1. Glycoside 2. Hemiacetal 3. Lactone 4. Anhydride		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

103	1002983	Given below are two statements: Statement (I): D-Glucose is called a reducing sugar because it undergoes an oxidation-reduction reaction at the anomeric carbon. Statement (II): One of the products of this reaction is D-glucuronate. 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

104	1002984	Glucose on oxidation does not give - Gluconic acid - Glucosaccharic acid - Glycoside - Glucuronic acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

105	1002985	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A): Disaccharides such as lactose and maltose are non-reducing sugars. Reason (R): Reducing sugars are those which possess free aldehyde or ketone group. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below . - Both A and R are correct - Both A and R are incorrect - Both A and R are correct and R is correct explanation of A - Both A and R are correct and R is not the correct explanation of A	4.0	1.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
106	1002986	What is the unit of frequency for a spectrophotometer? 1. Hertz (Hz) 2. Radians per second (rad/s) 3. Revolutions per minute (RPM) 4. Newtons (N) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
107	1002987	Why is pre-separation of metabolites typically necessary in MS-based metabolomic approaches? 1. To increase the complexity of the sample matrix 2. To decrease the sensitivity and selectivity of the analysis 3. To decrease the complexity of the sample matrix and enhance the sensitivity and selectivity of the analysis 4. To eliminate ion suppression and other interferences A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
108	1002988		4.0	1.00

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

Assertion (A): Glucokinase is important in the phosphorylation of glucose primarily after ingestion of a carbohydrate rich meal.

Reason (R): Glucokinase has a high K_m for glucose.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109	1002989	What type of curve is obtained when plotting enzyme activity velocity against substrate concentration? 1. Straight line with negative slope 2. Straight line with positive slope 3. Parabola 4. Hyperbolic curve A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

110	1002990	Activation or inactivation of certain key regulatory enzymes is accomplished by covalent modification of the amino acid 1. Serine 2. Lysine 3. Alanine 4. Phenylalanine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

111	1002991	In enzyme kinetics, K_m implies 1. Concentration of enzyme 2. The dissociation constant for the enzyme substrate complex 3. The substrate concentration that gives one half V_{max} 4. Half of the substrate concentration required to achieve V_{max} A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

1121002992

4.01.00

Match **List-I** with **List-II**

List-I	List-II
(Vitamin)	(Group transferred)
(A).Thiamine	(I). Acyl group
(B).Biotin	(II).One carbon groups
(C). Panthothenate	(III). Hydroxyethyl group
(D). Folic acid	(IV).Carbon-di-oxide

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

1. (A) – (IV), (B) – (III), (C) – (II), (D) – (I)

2. (A) – (II), (B) – (III), (C) – (IV), (D) – (I)

3. (A) – (III), (B) – (IV), (C) – (I), (D) – (II)

4. (A) – (III), (B) – (I), (C) – (IV), (D) – (II)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

113	1002993	How many molecules of NADH are produced during the TCA cycle? 1. 1 2. 2 3. 3 4. 4	4.0	1.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

114	I002994	Which enzyme is responsible for the conversion of glucose-6-phosphate to glucose during gluconeogenesis? 1. Glucose-6-phosphatase 2. Hexokinase 3. Phosphofructokinase 4. Aldolase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

115	I002995	Which of the following is a gaseous breakdown product of haemoglobin by heme oxygenase? 1. Nitric oxide (NO) 2. Carbon monoxide (CO) 3. Hydrogen sulfide (H₂S) 4. Molecular oxygen (O₂) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

116	I002996	Which of the following is a 7-carbon sugar formed in HMP shunt? 1. Mannoheptulose-7-phosphate 2. Heptulose-7-phosphate 3. Sedoheptulose-7-phosphate 4. Mannoheptose-7-phosphate A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

117	1002997	In shrimps, two-thirds of digestive enzyme activity is contributed by which enzyme? 1. Pepsin 2. Astacin 3. Trypsin 4. Chitinase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

118	1002998	During the synthesis of non-essential amino acids, Serine can be a precursor of 1. Methionine 2. Glycine 3. Tryptophan 4. Phenylalanine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

119	1002999	Which of the following is a dipeptide? 1. Anserine 2. Glutathione 3. TRH (thyrotropin releasing hormone) 4. β -Lipoprotein A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
120	1003000	Which of the following enzyme is coupled with transaminases for release of most of the ammonia from L-α-amino acids? 1. L-glutamate dehydrogenase 2. L-amino acid oxidase 3. Histamine decarboxylase 4. Serine dehydratase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00