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FOR JNUEE EXAM PREPARATION

JNUEE 2022 Question Paper · Ph.D Life Sciences (Groups I to V)

EXAM	YEAR	TYPE	SUBJECT
JNUEE	2022	Question Paper	Ph.D Life Sciences (Groups I to V)

राष्ट्रीय परीक्षा एजेंसी
National Testing Agency
Excellence in Assessment

Test Date : 09 Dec 2022 **Test Slot : Slot 2**

Subject : GONH-Life Sciences (Group 1 to V)

Sl. No.1
QBID:8922001

When an electrical dipole of dipole moment $\vec{p}$ is placed in electrical field $\vec{E}$, the torque $\vec{\tau}$ exerted by field on dipole

(1) $\vec{\tau} = \vec{p}.\vec{E}$ (2) $\vec{\tau} = \vec{p} \times \vec{E}$

(3) $\vec{\tau} = \vec{p}^2.\vec{E}^2$ (4) $\vec{\tau} = \vec{p}^2.\vec{E}$

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16201]
2[Option ID=16202]
3[Option ID=16203]
4[Option ID=16204]

Sl. No.2
QBID:8922002

10g of a liquid absorbs 260J of heat to raise its temperature by 10°C. What is the specific heat capacity of the liquid?

(1) $2.6\ KJ\ g^{-1}\ {}^{\circ}C^{-1}$ (2) $2.6 \times 10^{-2}\ J\ g^{-1}\ {}^{\circ}C^{-1}$

(3) $2.6\ J\ g^{-1}\ {}^{\circ}C^{-1}$ (4) $2.6\ J\ Kg^{-1}\ {}^{\circ}C^{-1}$

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16205]
2[Option ID=16206]
3[Option ID=16207]
4[Option ID=16208]

Sl. No.3
QBID:8922003

From a tower top, a person throws a ball upwards vertically at the speed of 14m/sec. What will be the speed of the ball after 2 seconds?

(1) 28 m/sec upwards (2) 23.6 m/sec downwards

(3) 5.6 m/sec downwards (4) 14.6 m/sec upwards

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16209]

2[Option ID=16210]
3[Option ID=16211]
4[Option ID=16212]

Sl. No.4
QBID:8922004

What is the resistance of an electric bulb that is labelled as 200V 200W?

(1) 100Ω (2) 200Ω

(3) 300Ω (4) 400Ω

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16213]
2[Option ID=16214]
3[Option ID=16215]
4[Option ID=16216]

Sl. No.5
QBID:8922005

One litre pure oxygen at STP contains

(1) 2.24 moles of oxygen (2) 6.023×10^{21} molecules of oxygen

(3) 4.46 g of oxygen (4) 4.46×10^{-2} moles of oxygen

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16217]
2[Option ID=16218]
3[Option ID=16219]
4[Option ID=16220]

Sl. No.6
QBID:8922006

Calcium carbonate reacting with dilute acid liberates carbon dioxide as shown in the following reaction

$CaCO_3 + 2HCl \rightarrow CaCl_2 + CO_2 + H_2O$

To yield 222 of $CaCl_2$ how much HCl will be required?

(1) 146 g (2) 73 g

(3) 292 g (4) 111 g

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16221]
2[Option ID=16222]
3[Option ID=16223]
4[Option ID=16224]

Sl. No.7
QBID:8922007

What should be the IUPAC name for diethyl chloromethane?

(1) 1-chloro, 1-ethyl methane
(2) 3-chloro, 1-methyl methane
(3) 1-ethyl, 2-chloro ethane
(4) 3-chloro pentane

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16225]
2[Option ID=16226]
3[Option ID=16227]
4[Option ID=16228]

Sl. No.8
QBID:8922008

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Electron will have higher velocity than proton in making matter waves of same wavelength

Reason (R) : Electron particles have lower mass than protons

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

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

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16229]
2[Option ID=16230]
3[Option ID=16231]
4[Option ID=16232]

Sl. No.9
QBID:8922009

If $Sec\theta = \sqrt{2}$, where θ is between $\frac{3\pi}{2}$ and 2π . The value of $\frac{1+\tan\theta+\cos ec\theta}{1+\cot\theta-\cos ec\theta} = ?$

(1) 0
(2) 1
(3) –1
(4) 4

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16233]
2[Option ID=16234]
3[Option ID=16235]
4[Option ID=16236]

Sl. No.10
QBID:8922010

In a state, the chance of an infant lives to the age of 25 is 95%, whereas the chance to live to the age of 65 is 65%. What is the chance of a 25 years of age survives to the age of 65?

(1) 30% (2) 12.2%

(3) 68.4% (4) 52.2%

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16237]
2[Option ID=16238]
3[Option ID=16239]
4[Option ID=16240]

Sl. No.11
QBID:8922011

Which of the following statement is correct?

(1) The area of a triangle is four times the area of the triangle formed by joining the mid point of its sides

(2) The area of a triangle is three times the area of the triangle formed by joining the mid point of its sides

(3) The area of a triangle is six times the area of the triangle formed by joining the mid point of its sides

(4) The area of the triangle is five times the area of the triangle formed by joining the mid point of its sides

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16241]
2[Option ID=16242]
3[Option ID=16243]
4[Option ID=16244]

Sl. No.12
QBID:8922012

What is the quadratic polynomial for which the sum and the product of zeros are $\sqrt{2}$ and $\frac{1}{2}$, respectively?

(1) $x^2 - \sqrt{2}x + 1$ (2) $2x^2 - \sqrt{2}x + 1$

(3) $x^2 + 2\sqrt{2}x + 1$ (4) $2x^2 - 2\sqrt{2}x + 1$

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16245]
2[Option ID=16246]
3[Option ID=16247]
4[Option ID=16248]

Sl. No.13
QBID:8922013

Given below are two statements :

Statement I : Archaebacteria are more primitive than Eubacteria

Statement II : Archaebacteria are found in harsh environmental conditions such as hotsprings and extreme salty areas

In the light of the above statements, choose the most appropriate 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 correct but Statement II is false

(4) Statement I is incorrect but Statement II is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16249]
2[Option ID=16250]
3[Option ID=16251]
4[Option ID=16252]

Sl. No.14
QBID:8922014

Match List I with List II

List I Crop plants		List II Variety	
(A)	Mango	(I)	Neelum
(B)	Apple	(II)	Sona Masoori
(C)	Rice	(III)	Pusa Ruby
(D)	Tomato	(IV)	Ambri

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16253]
2[Option ID=16254]
3[Option ID=16255]
4[Option ID=16256]

Sl. No.15
QBID:8922015

A 2.5 M NaCl solution contains ———— grams of NaCl in 100 ml distilled water (Molecular weight of NaCl is 58.44)

(1) 146 (2) 58.44
(3) 14.6 (4) 5.84

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16257]
2[Option ID=16258]
3[Option ID=16259]
4[Option ID=16260]

Sl. No.16
QBID:8922016

What would be the pH of a mixture containing 100 mM CH_3COOH and 1M CH_3COONa (The Pka of acetitic acid is 4.76)

(1) 4.76 (2) 4.86
(3) 5.86 (4) 5.76

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16261]
2[Option ID=16262]
3[Option ID=16263]
4[Option ID=16264]

Sl. No.17
QBID:8922017

The amount of NaOH required to prepare 0.5 M NaOH solution in 100 ml.

(1) 4 gm (2) 2 gm
(3) 0.4 gm (4) 0.2 gm

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16265]
2[Option ID=16266]
3[Option ID=16267]
4[Option ID=16268]

Sl. No.18
QBID:8922018

A researcher is provided with a solution of 95% ethanol. If 8 mL of distilled water are added to 2 mL of 95% ethanol solution, what is the concentration of the diluted ethanol solution?

(1) 0.19% (2) 23.75%

(3) 19% (4) 47.5%

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16269]
2[Option ID=16270]
3[Option ID=16271]
4[Option ID=16272]

Sl. No.19
QBID:8922019

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : A red color is formed when lactose is treated with Fehling's solution categorizing it as a reducing sugar.

Reasons (R) : Saccharides bearing anomeric carbons that have formed glycosides are termed as reducing sugars

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16273]
2[Option ID=16274]
3[Option ID=16275]
4[Option ID=16276]

Sl. No.20
QBID:8922020

The method of choice to detect the presence of serum antibodies against human immunodeficiency virus in a patient is

(1) Sandwich ELISA
(2) ELISPOT Assay
(3) Indirect ELISA
(4) Immuno cytochemistry

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16277]
2[Option ID=16278]
3[Option ID=16279]
4[Option ID=16280]

Sl. No.21
QBID:8922021

In a flow cytometer, the amount of side scattered light offers an indication of

(1) Size of cell
(2) Extent of intracellular complexity of cell
(3) Cell volume
(4) Receptor expression of cell

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16281]
2[Option ID=16282]
3[Option ID=16283]
4[Option ID=16284]

Sl. No.22
QBID:8922022

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Animal cell culture colonies that contain stem cells can be replated to produce mixed colonies

Reasons (R) : Stem cells have lost their capacity for self renewal and are committed to a particular lineage

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

(1) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) Both (A) and (R) are true but (R) is NOT the correct explanation of (A)

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16285]
2[Option ID=16286]
3[Option ID=16287]
4[Option ID=16288]

Sl. No.23
QBID:8922023

Given below are two statements :

Statement I : For marker assisted (MAS) breeding, backcrossing is not a good option for incorporating desirable trait from "donor" to "elite" genotype

Statement II : The MAS will be useful for precise transfer of genomic regions containing target trait (foreground selection) and by recovery of the recurrent parent genome (background selection)

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16289]
2[Option ID=16290]
3[Option ID=16291]
4[Option ID=16292]

Sl. No.24
QBID:8922024

A double stranded DNA molecule that is 50Kbp long has a base composition of 62% G+C. How many times, on average, is the Hind III restriction site (AAGCTT) likely to be present in this DNA molecule?

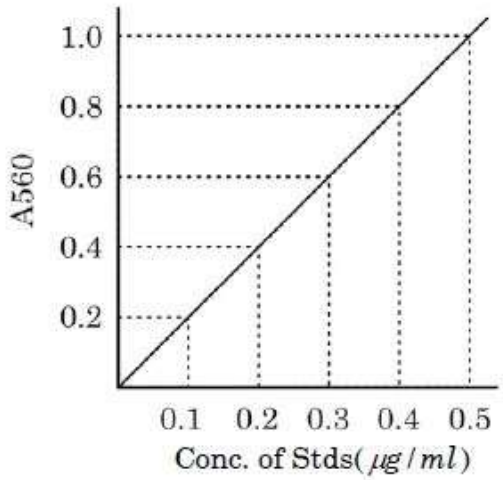
(1) 16.5 recognition sequences
(2) 150 recognition sequences
(3) 6.26 recognition sequences
(4) 12 recognition sequences

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16293]
2[Option ID=16294]
3[Option ID=16295]
4[Option ID=16296]

Sl. No.25
QBID:8922025

By using Lowery's method a student plotted the following graph between A_{560} and the concentration of standard protein samples. Calculate the concentration of unknown protein sample having $A_{560} = 0.25$



(1) 0.145 $\mu g/ml$
(2) 0.135 $\mu g/ml$
(3) 0.125 $\mu g/ml$
(4) 0.025 $\mu g/ml$

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16297]
2[Option ID=16298]
3[Option ID=16299]
4[Option ID=16300]

Sl. No.26
QBID:8922026

Given below are two statements :

Dr. Brown has identified two toxins : 'A' and 'B'. Toxin A and toxin B has LD_{50} values of 20 nM and 0.1 μM respectively. Given below are two statements related to the above situation

Statement I : Toxin A is better than toxin B in killing the same percentage of cells

Statement II : Toxin B can kill more than 50% cells at concentration of 50nM.

In the light of the above statements, choose the most appropriate 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 correct but Statement II is false

(4) Statement I is incorrect but Statement II is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16301]
2[Option ID=16302]
3[Option ID=16303]
4[Option ID=16304]

Sl. No.27
QBID:8922027

You are provided with a temperature sensitive mutant strain of bacteriophage lambda and you need to demonstrate by an experiment that the bacteriophage can undergo a lytic life cycle of the E.coli host cells. For this, the mutation should be in which of the following bacteriophage genes?

(1) red (2) gam

(3) cl (4) cro

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16305]
2[Option ID=16306]
3[Option ID=16307]
4[Option ID=16308]

Sl. No.28
QBID:8922028

Protein 'X' was expressed in a cell of 10 micron size, as a fusion protein with green fluorescent protein (GFP) at the N-terminal. Which of the following micrsocope (s) could be used to visualize the expression in the living cell

(A) fluorescent

(B) Confocal

(C) Atomic force

(D) Transmission electron

Choose the correct answer from the options given below :

(1) (A) and (B) only

(2) (B) only

(3) (A) and (C) only

(4) (B) and (D) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16309]
2[Option ID=16310]
3[Option ID=16311]
4[Option ID=16312]

Sl. No.29
QBID:8922029

Genes a and b are X-linked and are 7 m.u. apart. A Female fly (a^+b/ab^+) is mated with male fly (a^+b^+/γ). What is the probability that one of the sons will be a^+b^+ in phenotype?

(1) 0

(2) 0.25

(3) 0.5

(4) 1.0

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16313]
2[Option ID=16314]
3[Option ID=16315]
4[Option ID=16316]

Sl. No.30
QBID:8922030

In poultry the genotype-phenotype relationships for comb shape are R_P_ walnut; R_pp rose; rrP_pea and rrpp single. If RRPp is crossed with rrPp, what will be the proportion of offspring will have walnut comb?

(1) $\frac{1}{4}$

(2) $\frac{1}{2}$

(3) $\frac{3}{4}$

(4) 1

(1) 1

(2) 2

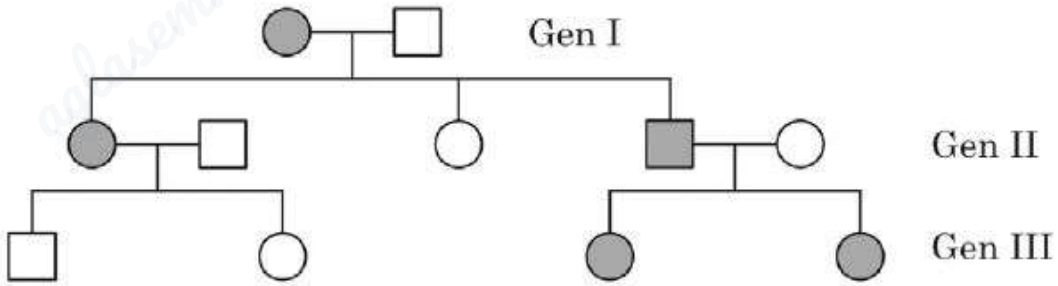
(3) 3

(4) 4

1[Option ID=16317]
2[Option ID=16318]
3[Option ID=16319]
4[Option ID=16320]

Sl. No.31
QBID:8922031

In case of a sex-linked dominant trait 'A' the following is the pedigree. Predict genotype of the 2 partners in the generation I



(1) X^AX, XY (2) X^AX^A, XY

(3) X^AX, X^AY (4) XX, X^AY

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16321]
2[Option ID=16322]
3[Option ID=16323]
4[Option ID=16324]

Sl. No.32
QBID:8922032

The dominant gene 'C' results in short croolied legs in chickens called 'Creepers'. The homogenous 'CC" are lethal. When two creepers are mated, the ratio of creepers to normal will be

(1) 3 :1 (2) 2 : 1

(3) 1 : 2 : 1 (4) 1 : 1

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16325]
2[Option ID=16326]
3[Option ID=16327]
4[Option ID=16328]

Sl. No.33
QBID:8922033

Given below are two statements :

Statement I : Positive interference implies that one crossover interferes with the occurrence of a second cross over

Statement II : The observed frequency of double crossover is equal to that of expected frequency when genes are linked

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16329]
2[Option ID=16330]
3[Option ID=16331]
4[Option ID=16332]

Sl. No.34
QBID:8922034

Match List I (disease) with List II (defective proteins).

	List I		List II
(A)	I-cell disease	(I)	Sphingmyelinase
(B)	Familial hypercholesterolemia	(II)	Hexosaminidase A
(C)	Try-Sachs disease	(III)	GlCNAC - Phosphotransferase
(D)	Niemann-Pick disease	(IV)	LDL receptor

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16333]
2[Option ID=16334]
3[Option ID=16335]
4[Option ID=16336]

Sl. No.35
QBID:8922035

Which of the following statements are correct regarding multidrug resistance transporter (MDR1)?

(A) MDR1 belongs to G-protein linked receptor

(B) MDR1 is responsible for drug resistance in certain tumors

(C) MDR1 is present in the placental membrane

(D) MDR1 has two nucleotide-binding domain

(E) MDR1 helps in retaining the drugs inside the tumor cells

Choose the correct answer from the options given below :

(1) Only (A), (C) and (E) are correct

(2) Only (B), (C), (D) and (E) are correct

(3) Only (B), (C), and (D) are correct

(4) Only (C), (D), (E) are correct

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16337]
2[Option ID=16338]
3[Option ID=16339]
4[Option ID=16340]

Sl. No.36
QBID:8922036

Receptor mediated endocytosis is involved in

(A) Import of cholesterol by cells

(B) Selective concentration of ligands

(C) Nuclear transport

(D) Synaptic transmission

(E) Iron uptake by cells

Choose the correct answer from the options given below :

(1) (A) and (B) only

(2) (A), (B) and (C) only

(3) (A), (B) and (E) only

(4) (A), (B) and (D) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16341]
2[Option ID=16342]
3[Option ID=16343]
4[Option ID=16344]

Sl. No.37
QBID:8922037

Match List I with List II

	List I		List II
(A)	Gated ion channels	(I)	Epidermal growth factor receptor
(B)	Nuclear receptors	(II)	β -adrenergic receptor
(C)	Receptor tyrosine kinase	(III)	Acetylcholine receptor
(D)	G-protein coupled receptors	(IV)	Estrogen receptor

Choose the correct answer from the options given below:

(1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
(2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
(3) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
(4) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16345]
2[Option ID=16346]
3[Option ID=16347]
4[Option ID=16348]

Sl. No.38
QBID:8922038

The enzyme involved in phosphorylation of mannose residues in proteins targeted to lysosomes is

(1) Phosphorylase
(2) Phosphotransferase
(3) Phosphatase
(4) Phospholipase

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16349]
2[Option ID=16350]
3[Option ID=16351]
4[Option ID=16352]

Sl. No.39
QBID:8922039

The intra- or inter-molecular interaction that is not broken when collagen is heated to produce gelatin is

(1) Hydrophobic interaction
(2) Covalent interaction
(3) Hydrogen binding
(4) Vander Waals interaction

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16353]

2[Option ID=16354]
3[Option ID=16355]
4[Option ID=16356]

Sl. No.40
QBID:8922040

Given below are two statements :

Statement I : In the presence of competitive inhibitor, Vmax is unchanged and Km is changed

Statement II : In the presence of noncompetitive inhibitors, Vmax is changed and Km is unchanged

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16357]
2[Option ID=16358]
3[Option ID=16359]
4[Option ID=16360]

Sl. No.41
QBID:8922041

What would be the net charge on glycerin solution having $pH < pI$

(1) Negative (2) Positive

(3) Zero (4) Both positive and negative

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16361]
2[Option ID=16362]
3[Option ID=16363]
4[Option ID=16364]

Sl. No.42
QBID:8922042

In sickle-cell anemia, the negatively charged glutamic acid is mutated by which amino acid?

(1) Alanine (2) Valine

(3) Glycine (4) Arginine

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16365]
2[Option ID=16366]
3[Option ID=16367]
4[Option ID=16368]

Sl. No.43
QBID:8922043

Which enzyme reverses the reaction step carried by hexokinase of glycolysis during gluconeogenesis?

(1) Phospho-fructokinase -1
(2) Fructose - 1,6- bisphosphatese-1
(3) Glucose-6-phosphatase
(4) Pyruvate kinase

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16369]
2[Option ID=16370]
3[Option ID=16371]
4[Option ID=16372]

Sl. No.44
QBID:8922044

The biologically active ingredients of most of the herbal medicines are

(A) Terpenoids and alkaloids
(B) Phenyl propanoids and allied phenolic compounds
(C) Carbohydrates and proteins

Choose the correct answer from the options given below :

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

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16373]
2[Option ID=16374]
3[Option ID=16375]
4[Option ID=16376]

Sl. No.45
QBID:8922045

Which of the following statements are correct regarding Pyruvase Dehydrogenese (PDH) complex in eukoryotic cells

(A) PDH complex enzymes are located in mitochondria

(B) PDH converts pyruvase into Acetyl-CoA and CO_2

(C) PDH carries out the reversible reaction

(D) The process requires $NADH^+$ and generates NAD^+

Choose the correct answer from the options given below :

(1) (A) and (B) only

(2) (B) and (C) only

(3) (C) and (D) only

(4) (A) and (D) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16377]
2[Option ID=16378]
3[Option ID=16379]
4[Option ID=16380]

Sl. No.46
QBID:8922046

Match List I with List II

	Membrane component		Composition
(A)	Cholesterol	(I)	Glycosylceramides
(B)	Cerebrosides	(II)	Preursor of farnesyl pyrophosphate
(C)	Mevalonic acid	(III)	Synthesized from fatty alcohols
(D)	Plasmalogens	(IV)	Precursor of Bile salts and steroid harmones

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16381]
2[Option ID=16382]
3[Option ID=16383]
4[Option ID=16384]

Sl. No.47
QBID:8922047

The lateral diffusion rates of lipids at the plasma membrane can be measured by

(1) Fluorescence microscopy

(2) Atomic force microscopy

(3) Electron microscopy after photobleaching

(4) Fluorescence recovery after photobleaching

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16385]
2[Option ID=16386]
3[Option ID=16387]
4[Option ID=16388]

Sl. No.48
QBID:8922048

Given below are two statements :

Statement I : Rotenone addition to a suspension of mitochondria blocks electron transport in complex I

Statement II : The addition of succinate to the above suspension can restore electron transport and O_2 consumption

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16389]
2[Option ID=16390]
3[Option ID=16391]
4[Option ID=16392]

Sl. No.49
QBID:8922049

Properties of some restriction enzymes are mentioned below

(A) The restriction enzyme BamH I recognizes the sequences 5'-GGATCC-3' and cleaves between the first G and second G on both strands of DNA

(B) The restriction enzyme Bgl II recognizes the sequences 5'-AGACTC-3' and cleaves between the first A and second G on both strands of DNA

(C) The restriction enzyme EcoR I recognizes the sequences 5'-GAATTC-3' and cleaves between the first G and A on both strands of DNA

Choose the correct answer from the options given below :

(1) The sticky ends produced by Bam H I can be ligated to that produced by Bgl II

(2) The sticky ends produced by Bgl II can be ligated to that produced by Bco R I

(3) The sticky ends produced by BamH I can be ligated to that produced by EcoRI

(4) None of these sticky ends are compatible to each other

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16393]
2[Option ID=16394]
3[Option ID=16395]
4[Option ID=16396]

Sl. No.50
QBID:8922050

Given below are two statements :

Statement I : Helicase loading and activation are regulated to allow only a single round of replication during each cell cycle.

Statement II : Loaded heliacses are released from the replicating chromosomes to ensure a single round of replication during each cell cycle

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16397]
2[Option ID=16398]
3[Option ID=16399]
4[Option ID=16400]

Sl. No.51
QBID:8922051

Given below are two statements :

Statement I : RNA editing does not change the sequence of a mRNA thereby leading to a protein comparable to that from unedited mRNA

Statement II : RNA editing of the CAA codon can result into a stop codon

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16401]
2[Option ID=16402]
3[Option ID=16403]
4[Option ID=16404]

Sl. No.52
QBID:8922052

Given below are two statements :

Statement I : Double strand breaks are required to initiate meiotic homologous recombination in eukaryotes

Statement II : RecA protein mediates meiotic homologous recombination

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16405]
2[Option ID=16406]
3[Option ID=16407]
4[Option ID=16408]

Sl. No.53
QBID:8922053

Which of the following about TATA binding protein (TBP) is incorrect?

(1) TBP binding to promoter DNA causes a bending of DNA by 80° angle

(2) TBP binds to only the TATAA motif in gene promoters

(3) TBP binds to TATAAA and some variants of that sequences in gene promoters

(4) TBP is a general transcription factor

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16409]
2[Option ID=16410]
3[Option ID=16411]
4[Option ID=16412]

Sl. No.54
QBID:8922054

Given below are two statements :

Statement I : Acetylation of histone tails allows nucleosomes to pack into tighter arrays

Statement II : A modified lysine in a histone can carry one, two or three methyl groups

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16413]
2[Option ID=16414]
3[Option ID=16415]
4[Option ID=16416]

Sl. No.55
QBID:8922055

The Genetic code is said to contain degeneracy of the codons specifying more than one codon for individual amino acids in many cases. If this has two major biological advantages, which of the following is one of those two advantages.

(1) The first necleotide of the anticodon of the tRNA can be any one out of the four (A, G, C, U)

(2) Flexibility of the third nucleotide of the codon protects against mutation

(3) It increases the rate of protein synthesis

(4) It allows tRNA to bind correct amino acid

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16417]
2[Option ID=16418]
3[Option ID=16419]
4[Option ID=16420]

Sl. No.56
QBID:8922056

Which of the following is responsible for correct recognition of amino acid by tRNA for protein synthesis?

(1) Amino acyl tRNA synthetase

(2) 1F-2–GTP

(3) Peptidyl (P) site of ribosome

(4) Amino acyl (A) site of ribosome

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16421]
2[Option ID=16422]
3[Option ID=16423]
4[Option ID=16424]

Sl. No.57
QBID:8922057

Which of the following is the likely reason as to the difficulty of ab initio gene finding algorithms to predict protein-coding genes in eukaryotes genomic DNA?

(A) Exon-intron borders are hard to predict

(B) Long intronic sequence

(C) Inability to discriminate coding and non-coding sequences based on GC content

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) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16425]
2[Option ID=16426]
3[Option ID=16427]
4[Option ID=16428]

Sl. No.58
QBID:8922058

Match List I with List II

	List I (Functions)		List II (protein)
(A)	Primase	(I)	DNA polymerase I
(B)	DNA helicase	(II)	PCNA
(C)	Clamp loader	(III)	DnaG
(D)	Removal of RNA primers	(IV)	DnaB

Choose the correct answer from the options given below:

(1) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
(2) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)
(3) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
(4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16429]
2[Option ID=16430]
3[Option ID=16431]
4[Option ID=16432]

Sl. No.59
QBID:8922059

In a database search, the significance of the alignment can be established by optimal statistical testing. Which of the following is an INCORRECT option to determine if the alignment score in likely to have occurred by chance?

(1) State a null hypothesis that the two sequences are not related
(2) State an alternate hypothesis that the two sequences are related
(3) The null hypothesis is not useful for this purpose
(4) Randomly scramble the sequence of one of the query sequences and compare to the second sequence being tested

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16433]
2[Option ID=16434]
3[Option ID=16435]
4[Option ID=16436]

Sl. No.60
QBID:8922060

Next generation sequencing (NGS) technology cannot be used for

(1) de novo genome sequencing

(2) quantitative mRNA expression profiling

(3) quantitative protein expression profiling

(4) genome-wide binding of transcription factors

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16437]
2[Option ID=16438]
3[Option ID=16439]
4[Option ID=16440]

Sl. No.61
QBID:8922061

The Henderson-Hasselbalch equation relates pH, pKa and buffer concentration

(1) $pH = pK_\alpha + \log\frac{[A^-]}{[HA]}$

(2) $pH = pK_\alpha + \log\frac{[HA]}{[A^-]}$

(3) $pH = pK_\alpha - \log\frac{[A^-]}{[HA]}$

(4) $pH = pK_\alpha + \log\frac{[A^-]}{[HA^-]}$

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16441]
2[Option ID=16442]
3[Option ID=16443]
4[Option ID=16444]

Sl. No.62
QBID:8922062

Match List I with List II

List-I (Supersecondary structure)	List-II (Conformation)
(A) $\beta\alpha\beta$ motif	(I) $\alpha\beta$ - hairpin folded and form four stranded antiparallel β -sheets
(B) β -hairpin	(II) Two consecutive parallel β -strands connected by α -helix
(C) $\alpha\alpha$ motif	(III) Antiparallel β -sheets
(D) Greek key motif	(IV) Two consecutive α - helices packed against each other

Codes:

(1) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
(2) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
(3) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
(4) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16445]
2[Option ID=16446]
3[Option ID=16447]
4[Option ID=16448]

Sl. No.63
QBID:8922063

Two statements related to biofilms are given below

Statement I : Biofilms are simple communities specifically developed by pathogenic microbes

Statement II : Biofilms are made up of polysaccharides, proteins, glycoproteins, glycolipids and DNA

In the light of the above statements, choose the most appropriate 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 correct but Statement II is false
(4) Statement I is incorrect but Statement II is true

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16449]
2[Option ID=16450]

3[Option ID=16451]
4[Option ID=16452]

Sl. No.64
QBID:8922064

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : An efficacious malaria vaccine is not available for clinical use

Reasons (R) : Malaria parasite has highly complex life cycle and show huge antigenic variation

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16453]
2[Option ID=16454]
3[Option ID=16455]
4[Option ID=16456]

Sl. No.65
QBID:8922065

Match List I with List II

List I (Virus)		List II (Genome)	
(A)	Bacteriphages $\phi X174$	(I)	Plus strand RNA
(B)	Influenza virus	(II)	Minus strand RNA
(C)	Rotavirus	(III)	ssDNA
(D)	Poliovirus	(IV)	ds RNA

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16457]
2[Option ID=16458]
3[Option ID=16459]
4[Option ID=16460]

Sl. No.66
QBID:8922066

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : The "PAC" sequence of phage λ ensures headful packaging during virion synthesis in productive life cycle.

Reasons (R) : The "COS" site of phage has been used for *in vitro* packaging in λ expression vectors

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16461]
2[Option ID=16462]
3[Option ID=16463]
4[Option ID=16464]

Sl. No.67
QBID:8922067

Decimal reduction time or D value for an antimicrobial agent refers to the time required to kill ———————— of microorganisms in a sample

(1) 90% (2) 75%

(3) 99.99% (4) 50%

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16465]

2[Option ID=16466]
3[Option ID=16467]
4[Option ID=16468]

Sl. No.68
QBID:8922068

Match the diseases in List I with the vectors in List II that transmit them.

	List I		List II
(A)	Malaria	(I)	Anopheles stephensi
(B)	Lyme disease	(II)	Triatoma infestans
(C)	Chagas disease	(III)	Phlebotomus papatasi
(D)	Leishmania	(IV)	Ixodes scapularis

Codes:

(1) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)
(2) (A)-(I), (B)-(IV), (C)-(II), (D)-(III)
(3) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
(4) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16469]
2[Option ID=16470]
3[Option ID=16471]
4[Option ID=16472]

Sl. No.69
QBID:8922069

The letter 'Q' in Q-fever stands for

(1) Quotient
(2) Query
(3) Quaternary
(4) Quarantine

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16473]
2[Option ID=16474]
3[Option ID=16475]
4[Option ID=16476]

Sl. No.70
QBID:8922070

The form of immune protection that is transferred between individuals and may involve emergency use of immune serum, is specifically called

(1) Cellular immunity
(2) Acquired immunity
(3) Herd immunity
(4) Passive immunity

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16477]
2[Option ID=16478]
3[Option ID=16479]
4[Option ID=16480]

Sl. No.71
QBID:8922071

Immuno precipitation experiments performed with two different batches of polyclonal sera derived from the same animal, but at different time points can yield different number of bound proteins. The reasons for difference in results is/are

(A) The population of B cell clones responding to antigen does not change over time in an individual

(B) Different B cell clones predominate at different times in an individual

(C) Overall affinity of antibodies in serum increases with time

(D) The proteins with which the individual antibodies will cross react will not change with binding site modulations

Choose the correct answer from the options given below :

(1) (A) and (B) only

(2) (B) and (C) only

(3) (A), (B) and (C) only

(4) (A), (B), (C) and (D)

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16481]
2[Option ID=16482]
3[Option ID=16483]
4[Option ID=16484]

Sl. No.72
QBID:8922072

Match the pattern recognition receptors given in List I with the respective downstream molecules/molecular complexes involved in their activation/signalling pathways of each one given in List II

List I (Pattern Recognition Receptors)		List II (Downstream molecule/molecular complexes)	
(A)	TLR 4	(I)	CARD 9
(B)	TLR 7	(II)	Inflammasome
(C)	NLRP 3	(III)	NF-kappa B
(D)	Dectin 1	(IV)	IRF 7

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16485]
2[Option ID=16486]
3[Option ID=16487]
4[Option ID=16488]

Sl. No.73
QBID:8922073

Given below are the 4 steps of neutrophil extravasation at inflammatory site. Arrange them in correct order of occurance

(A) Activation by chemokine and GPCR interaction

(B) Diapedesis

(C) Tethering and rolling mediated by selectins and mucins

(D) Tight adhesion or arrest mediated by integrins and ICAMS

Choose the correct order from the options given below :

(1) (A), (B), (D), (C)

(2) (A), (C), (B), (D)

(3) (C), (A), (D), (B)

(4) (C), (D), (A), (B)

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16489]
2[Option ID=16490]
3[Option ID=16491]
4[Option ID=16492]

Sl. No.74
QBID:8922074

In his famous experiment Louis Pasteur had carried out accidental re-inoculation of some chickens that he had previously exposed to the bacteria that causes choleras. Why do you think these chicken did not die after the first or the second exposure to this bacterium?

(1) This batch of chicken was very healthy and was therefore immune to this bacteria

(2) The bacteria used during first and second inoculation were not virulent

(3) The first inoculation was with virulent bacteria but the second inoculation was with alternated bacteria, hence the chicken developed immunity to these bacteria

(4) The first inoculation was with alternated bacteria, and the second with virulent bacteria, but chicken had developed immunity due to exposure to the attenuated bacteria

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16493]
2[Option ID=16494]
3[Option ID=16495]
4[Option ID=16496]

Sl. No.75
QBID:8922075

Which of the following statements are false in relation to Type I hypersensitivity?

(A) Mast cells have FcERI on their membrane, play an important role

(B) IL-4 decreases IgE production by B cells

(C) Upon activation, mast cells secrete mediators of inflammation

(D) Mast cells secrete the cytokine IL-2

(E) Type I hypersensitivity is due to IgM antibodies

Choose the correct answer from the options given below :

(1) (D) and (E) only

(2) (A) and (B) only

(3) (B), (D) and (E) only

(4) (A) and (C) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16497]
2[Option ID=16498]
3[Option ID=16499]
4[Option ID=16500]

Sl. No.76
QBID:8922076

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : In case of β_2 microglobulin knockout mice there is expression of MHC class I on cells intermittently due to increased rate of recycling of empty MHC I molecules

Reasons (R) : In case of cells showing transient expression of MHC class I, there is expression of empty MHC I that is recycled through recycling vesicles

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16501]
2[Option ID=16502]
3[Option ID=16503]
4[Option ID=16504]

Sl. No.77
QBID:8922077

Match List I with List II

	List I		List II
(A)	Proto-oncogene	(I)	P53
(B)	DNA repair gene	(II)	E-6
(C)	Tumor suppressor gene	(III)	c-src
(D)	Viral oncogene	(IV)	Ku 70

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16505]
2[Option ID=16506]
3[Option ID=16507]
4[Option ID=16508]

Sl. No.78
QBID:8922078

Tumor angiogenesis is a critical event in growth of solid tumors. Which one of the following is NOT TRUE with respect to tumor angiogenesis?

(1) It is essentially required for the growth of solid tumors

(2) Tumors always develop de-novo angiogenosis

(3) Tumor angiogenesis is usually initiated from the host blood vascular network

(4) Vascular endothelial growth factor-A is an important molecule for activating the endothelial cells

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16509]
2[Option ID=16510]
3[Option ID=16511]
4[Option ID=16512]

Sl. No.79
QBID:8922079

Match List I with List II

	List I (Types of cleavage)		List II (Examples)
(A)	Rotational	(I)	Most insects
(B)	Displaced radial	(II)	Birds
(C)	Descoidal	(III)	Mammals
(D)	Superficial	(IV)	Amphibians

Codes:

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

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

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

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16513]
2[Option ID=16514]
3[Option ID=16515]
4[Option ID=16516]

Sl. No.80
QBID:8922080

Which of the following statements with respect to limb development of tetrapods are correct?

(A) Homeobox transcription factor (HOX gene) play an essential role in specifying whether a particular Mesenchymal cell will become stylopod, zeugopod or Autopod.

(B) In chick, gain of FgF8 function results in loss of the forelimb field and truncated limbs

(C) In mice, Tbx 5 is transcribed in the limb fields of hindlimb

(D) In chick, Tbx 4 expression throughout the flank tissue results in legs instead of wings in the posterior region

(E) If the Apical Ectodermal Ridge (AER) is removed at any time during limb development, further development of distal limb skeletal elements ceases

Choose the correct answer from the options given below :

(1) (A), (B) and (E) only

(2) (A), (B) and (D) only

(3) (A), (C) and (E) only

(4) (B), (C) and (E) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16517]
2[Option ID=16518]
3[Option ID=16519]
4[Option ID=16520]

Sl. No.81
QBID:8922081

Given below are two statements :

Statement I : Neuro transmitters and neurohormons both are chemicals and secreated by neurons

Statement II : Neurotransmitters are released into the synaptic cleft whereas Neurochormons are released into blood vessels

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16521]
2[Option ID=16522]
3[Option ID=16523]
4[Option ID=16524]

Sl. No.82
QBID:8922082

Blood flowing in umbelical cord of mammalian embryo is

(1) 100% maternal
(2) 50% maternal and 50% Foetal
(3) 100% Foetal
(4) 75% Foetal and 25% maternal

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16525]
2[Option ID=16526]
3[Option ID=16527]
4[Option ID=16528]

Sl. No.83
QBID:8922083

Match List I with List II

	List I (Organs in Cockroach)		List II (Segmental Localization)
(A)	Testis	(I)	6th abdominal segment
(B)	Ovary	(II)	4th – 6th abdominal segment
(C)	Mushroom gland	(III)	2nd – 6th abdominal segment
(D)	Spermatheca	(IV)	6th – 7th abdominal segment

Codes:

(1) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
(2) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
(3) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)
(4) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16529]
2[Option ID=16530]
3[Option ID=16531]
4[Option ID=16532]

Sl. No.84
QBID:8922084

Osmotic gradient established inside the malpighian tubules in insects causing body water and organic waste to flow into them, is due to the secretion of

(1) Ca^+ ions into the tubules
(2) Na^+ ions into the tubules
(3) K^+ ions into the tubules
(4) Cl^- ions into the tubules

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16533]

2[Option ID=16534]
3[Option ID=16535]
4[Option ID=16536]

Sl. No.85
QBID:8922085

Match List I with List II

	List I		List II
(A)	Larynx	(I)	Wind pipe
(B)	Trachea	(II)	Cartilaginous ring
(C)	Bronchi	(III)	Respiratory unit
(D)	Alveoli	(IV)	Voice box

Codes:

(1) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
(2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
(3) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
(4) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16537]
2[Option ID=16538]
3[Option ID=16539]
4[Option ID=16540]

Sl. No.86
QBID:8922086

Match List I with List II

	List I (Thermal classifications)		List II (Definations)
(A)	Poikilothermy	(I)	Body heat derived from metabolism
(B)	Endothermy	(II)	Body heat derived from environment
(C)	Homeothermy	(iii)	Body temperature fluctuates with environment
(D)	Ectothermy	(IV)	Body temperature remains constant

Codes:

(1) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)
(2) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
(3) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
(4) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=16541]
2[Option ID=16542]
3[Option ID=16543]
4[Option ID=16544]

Sl. No.87
QBID:8922087

Given below are two statements :

Statement I : Notochard is dorsal, single and hollow in vertebrates

Statement II : Notochard is dorsal to nerve cord in vertebrates

In the light of the above statements, choose the most appropriate 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 correct but Statement II is false

(4) Statement I is incorrect but Statement II is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16545]
2[Option ID=16546]
3[Option ID=16547]
4[Option ID=16548]

Sl. No.88
QBID:8922088

If the layers of pacinian corpsules are pealed away and the mechanical stimulus is applied directly to the necked membrane

(A) Receptor potential obtained will sustain much longer

(B) No receptor potential will be generated

(C) Receptor potential will produce more accurate representation of the stimulus

(D) Receptor potential will not show any degree of adaptation

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) (B) and (D) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16549]
2[Option ID=16550]
3[Option ID=16551]
4[Option ID=16552]

Sl. No.89
QBID:8922089

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Amphibians and reptiles appear incapable of producing hyperosmotic urine

Reasons (R) : Because they lack countercurrent multiplier system of the loop of Henle

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16553]
2[Option ID=16554]
3[Option ID=16555]
4[Option ID=16556]

Sl. No.90
QBID:8922090

Trichome meristem is an example of

(1) Embryonic meristem (2) Primary meristem

(3) Secondary meristem (4) Lateral meristem

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16557]
2[Option ID=16558]
3[Option ID=16559]
4[Option ID=16560]

Sl. No.91
QBID:8922091

Given below are two statements related to the first division of Zygote cells in Arabidopsis

Statement I : Zygote divides asymmetrically making a smaller apical cell and a larger basal cell

Statement II : Auxin concentration is higher in the apical cell than the basal cell

In the light of the above statements, choose the most appropriate 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 correct but Statement II is false

(4) Statement I is incorrect but Statement II is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16561]
2[Option ID=16562]
3[Option ID=16563]
4[Option ID=16564]

Sl. No.92
QBID:8922092

Stem elongation in response to shading is referred as shade avoidance response. Which of the following in true in connection with shade avoidance response?

(A) As shade increase R:FR ratio decreases

(B) A higher level of FR converts Pfr to Pr

(C) Lower Pfr levels induces stem elongation in plants that respond to shade avoidance

Choose the correct answer from the options given below :

(1) (A) only

(2) (B) only

(3) (A) and (C) only

(4) (A), (B) and (C)

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16565]
2[Option ID=16566]
3[Option ID=16567]
4[Option ID=16568]

Sl. No.93
QBID:8922093

Which of the following statements is not true regarding the function of magnesium ions (Mg^{2+})?

(1) Required for the activation of several enzymes

(2) Take part in the structural component by covalently linking with carbon compound

(3) Is a part of several pigment molecules

(4) A characteristics symptom of deficiency in chlorosis between leaf viens occuring first in the older leaves

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16569]
2[Option ID=16570]
3[Option ID=16571]
4[Option ID=16572]

Sl. No.94
QBID:8922094

Chloroplast genomes of most angiosperm contains the gene for the following

(1) All ribosomal RNA of chloroplasts

(2) All tRNAs of chloroplasts

(3) All proteins required for fatty acid biosynthesis

(4) all proteins required for photosynthesis

(1) 1

(2) 2

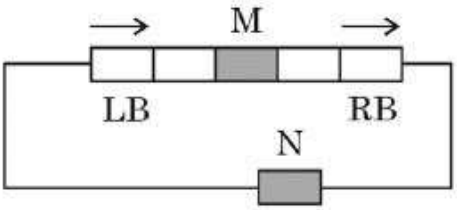
(3) 3

(4) 4

1[Option ID=16573]
2[Option ID=16574]
3[Option ID=16575]
4[Option ID=16576]

Sl. No.95
QBID:8922095

The diagram is of a binary vector used for transformation. Boxes M and N represent Hygromycin (Hyg) and Kanamycin (Kan) resistance genes, respectively. Which of the followings is correct?



(A) Hyg be applied in plates selecting for transformed Agrobacterium cells

(B) Kan be applied in plates for selecting transformed Agrobacterium cells

(C) Hyg be applied in plates for selecting transformed plant cells

(D) Kan be applied in plates for selecting transformed plant cells

Choose the correct answer from the options given below :

(1) (A) and (D) only

(2) (B) and (C) only

(3) (B) and (D) only

(4) (A) and (B) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16577]
2[Option ID=16578]

3[Option ID=16579]
4[Option ID=16580]

Sl. No.96
QBID:8922096

Given below are two statements :

Statement I : Paraquat accepts electrons from the early acceptors of photosystem I

Statement II : Reduced paraquat reacts with oxygen to form superoxide, O_2^-

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16581]
2[Option ID=16582]
3[Option ID=16583]
4[Option ID=16584]

Sl. No.97
QBID:8922097

Given below are two statements :

Statement I : The carboxylation and oxygenation of ribulose 1,5-biphosphate are not competing reactions

Statement II : Photorespiration depends on the photosynthetic electron transport system

In the 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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16585]
2[Option ID=16586]
3[Option ID=16587]
4[Option ID=16588]

Sl. No.98
QBID:8922098

Which of the following are generally true about from mature sieve element?

(A) Golgi bodies (B) Modified plastid

(C) P-protein (D) Vacuole

Choose the correct answer from the options given below :

(1) (A) and (B) only

(2) (A) and (D) only

(3) (B) and (C) only

(4) (B) and (D) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16589]
2[Option ID=16590]
3[Option ID=16591]
4[Option ID=16592]

Sl. No.99
QBID:8922099

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Inactivation of Arabidopsis SALT OVERLY SENSITIVE 1 (SOS1) gene confers higher level of resistance towards sodium salt

Reasons (R) : SOSI codes for plasma membrane Na^+/H^+ antiporter

In the 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 true but (R) is false

(4) (A) is false but (R) is true

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16593]
2[Option ID=16594]
3[Option ID=16595]
4[Option ID=16596]

Sl. No.100
QBID:8922100

Receptor of which phytohormones have histidine kinase activity

(A) Gibberelins

(B) Cytokinin

(C) Abscisic acid

(D) Auxin

Choose the correct answer from the options given below :

(1) (A) and (C) only

(2) (B) and (D) only

(3) (B) only

(4) (C) only

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=16597]
2[Option ID=16598]
3[Option ID=16599]
4[Option ID=16600]