



# Telangana State Council Higher Education

## Notations :

1.Options shown in green color and with  icon are correct.

2.Options shown in red color and with  icon are incorrect.

<b>Question Paper Name :</b>	Bio Technology 30th May 2023 Shift1
<b>Subject Name :</b>	Bio Technology
<b>Creation Date :</b>	2023-05-30 13:11:07
<b>Duration :</b>	120
<b>Total Marks :</b>	120
<b>Display Marks:</b>	No
<b>Share Answer Key With Delivery Engine :</b>	Yes
<b>Actual Answer Key :</b>	Yes
<b>Calculator :</b>	None
<b>Magnifying Glass Required? :</b>	No
<b>Ruler Required? :</b>	No
<b>Eraser Required? :</b>	No
<b>Scratch Pad Required? :</b>	No
<b>Rough Sketch/Notepad Required? :</b>	No
<b>Protractor Required? :</b>	No
<b>Show Watermark on Console? :</b>	Yes
<b>Highlighter :</b>	No
<b>Auto Save on Console?</b>	Yes
<b>Change Font Color :</b>	No
<b>Change Background Color :</b>	No
<b>Change Theme :</b>	No

<b>Help Button :</b>	No
<b>Show Reports :</b>	No
<b>Show Progress Bar :</b>	No

## **Bio Technology**

<b>Group Number :</b>	1
<b>Group Id :</b>	28393664
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	120
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	120
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## **Mathematics**

<b>Section Id :</b>	283936178
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	10
<b>Number of Questions to be attempted :</b>	10
<b>Section Marks :</b>	10
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0

Sub-Section Number : 1  
Sub-Section Id : 283936178  
Question Shuffling Allowed : Yes  
Is Section Default? : null

Question Number : 1 Question Id : 2839369041 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Correct Marks : 1 Wrong Marks : 0

The condition for which all the eigenvalues of the matrix  $A = \begin{bmatrix} 2 & 1 & 2 \\ 0 & K & 6 \\ 0 & 0 & 1 \end{bmatrix}$  are positive is

Options :

1. ✓  $K > 0$
2. ✗  $K > -3$
3. ✗  $K = 1$  only
4. ✗  $K > \frac{-2}{3}$

Question Number : 2 Question Id : 2839369042 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Correct Marks : 1 Wrong Marks : 0

If  $\lambda$  is an eigenvalue of  $A$  then the eigenvalues of  $Adj(A)$  is

Options :

1. ✗  $\frac{1}{\lambda}$

2. ✘  $\lambda$

3. ✔  $\frac{|A|}{\lambda}$

4. ✘  $\frac{Adj(A)}{\lambda}$

Question Number : 3 Question Id : 2839369043 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The sequence  $\{x_n\}$  where  $x_n = \left(1 + \frac{1}{3n}\right)^{2n}$  converge to

Options :

1. ✔  $e^{\frac{2}{3}}$

2. ✘  $e^{\frac{1}{3}}$

3. ✘  $e^2$

4. ✘  $e^3$

Question Number : 4 Question Id : 2839369044 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If  $f(x) = |x|$ ,  $-\pi < x < \pi$  and the Fourier series of  $f(x) = \sum_{n=0}^{\infty} (a_n \cos nx + b_n \sin nx)$  then  $a_0 =$

Options :

1. ✘  $-\pi$

2. ✘  $\pi$

3. ✘  $\frac{-\pi}{2}$

4. ✔  $\frac{\pi}{2}$

Question Number : 5 Question Id : 2839369045 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

It is given that correlation coefficient of the 'n' pair of observations (x, y) is  $r = 0.8$ ,  $\sum XY = 60$ ,  $\sum X^2 = 90$  and  $\sigma_y = 2.5$ , here X, Y are deviations from the arithmetic means of x and y, then n =

Options :

1. ✘ 30

2. ✘ 20

3. ✔ 10

4. ✘ 5

Question Number : 6 Question Id : 2839369046 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the two regression coefficients are  $0.8$  and  $0.2$ , then the value of coefficient of correlation is

Options :

1. ✓  $0.4$

2. ✗  $0.5$

3. ✗  $0.6$

4. ✗  $0.7$

Question Number : 7 Question Id : 2839369047 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Integrating factor of  $x^2 y dx - (x^3 + y^3) dy = 0$  is

Options :

1. ✗  $\frac{-1}{y^4}$

2. ✗  $\frac{1}{x^2 + y^2}$

3. ✗

$$\frac{1}{x^2 y^2}$$

4. ✓  $y^4$

**Question Number : 8 Question Id : 2839369048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The general solution of  $\frac{dy}{dx} + 1 = e^{x+y}$  is

**Options :**

1. ✗  $x - e^{-(x+y)} = c$

2. ✓  $x + e^{-(x+y)} = c$

3. ✗  $xe^{-(x+y)} = c$

4. ✗  $xye^{-(x+y)} = c$

**Question Number : 9 Question Id : 2839369049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The first approximation to a real root of the equation  $x^3 - x - 4 = 0$  by Regula-falsi method between 1 and 2 is

**Options :**

1. ✘ 1.223

2. ✘ 1.333

3. ✔ 1.666

4. ✘ 1.466

**Question Number : 10 Question Id : 2839369050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The iterative formula to find a numerical solution of an initial value problem

$\frac{dy}{dx} = f(x, y), y(x_0) = y_0$  using Euler's method is

**Options :**

1. ✘  $y_{n+1} = hf(x_n, y_n)$

2. ✘  $y_{n+1} = y_n + f(x_n, y_n)$

3. ✘  $y_{n+1} = y_0 + f(x_n, y_n)$

4. ✔  $y_{n+1} = y_n + hf(x_n, y_n)$

## Bio Technology



<b>Section Number :</b>	2
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	110
<b>Number of Questions to be attempted :</b>	110
<b>Section Marks :</b>	110
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	283936179
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 11 Question Id : 2839369051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is a secondary database

**Options :**

1. ✘ DDBJ
2. ✘ Genbank
3. ✘ PDB
4. ✔ Inter pro

**Question Number : 12 Question Id : 2839369052 Question Type : MCQ Option Shuffling : Yes**

**Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

ddNTPs are used in .....DNA sequencing

**Options :**

1. ✘ Shot gun
2. ✔ Sanger
3. ✘ Pair-wise end
4. ✘ NGS

**Question Number : 13 Question Id : 2839369053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is not a multiple sequence alignment tool

**Options :**

1. ✘ FASTA
2. ✘ CLUSTAL W
3. ✘ COBALT
4. ✔ BLAST

**Question Number : 14 Question Id : 2839369054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A node in a phylogenetic tree represents.....

**Options :**

1. ✓ a branching point from ancestral population
2. ✗ topmost branch of each point
3. ✗ a group of organisms
4. ✗ diversification of genus

**Question Number : 15 Question Id : 2839369055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In PAM250 matrix the figure 250 denotes.....

**Options :**

1. ✗ 250 squares are present in the matrix
2. ✗ 250 aminoacids are identical
3. ✓ 250 mutations per 100 aminoacids have happened
4. ✗ 250 different types of PAM are available

**Question Number : 16 Question Id : 2839369056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

What is the difference between a genome and a transcriptome?

**Options :**

1. ✓ A genome is the complete set of genes in an organism, while a transcriptome is the complete set of RNA transcripts produced by the genome
2. ✘ A genome is the complete set of RNA transcripts produced by an organism, while a transcriptome is the complete set of genes in the genome
3. ✘ A genome is the complete set of proteins produced by an organism, while a transcriptome is the complete set of genes in the genome
4. ✘ A genome is the complete set of genes and proteins produced by an organism, while a transcriptome is the complete set of RNA transcripts produced by the genome

**Question Number : 17 Question Id : 2839369057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....microarrays can be used for the detection of both mutation genotyping and gene expression analysis

**Options :**

1. ✘ cDNA
2. ✓ Oligonucleotide

3. ✘ Gene chip

4. ✘ DNA microarray

**Question Number : 18 Question Id : 2839369058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....can be introduced in sequence alignments for better matching

**Options :**

1. ✘ BLAST

2. ✔ Gap penalty

3. ✘ Null characters

4. ✘ Relative scores

**Question Number : 19 Question Id : 2839369059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Lipinski rule of five is related to

**Options :**

1. ✔ Pharmacological suitability of drugs for oral administration

2. ✘ 5 atoms interaction in a drug

3. ✘ Binding energy of drug ligand interaction

4. ✘ Log p Value of greater than 5

Question Number : 20 Question Id : 2839369060 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....extension is used in files for nucleic acids

Options :

1. ✔ .fna

2. ✘ .fnf

3. ✘ .fan

4. ✘ .frn

Question Number : 21 Question Id : 2839369061 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Select the category of enzymes to which Bal31 belongs, which is purified from  
*Alteromonas Espejiana*.

Options :

1. ✘ Phosphatase

2. ✘ Endonuclease

3. ✘ Helicase

4. ✔ Exonuclease

**Question Number : 22 Question Id : 2839369062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A vector named pBluescript S K is a best known example of

**Options :**

1. ✘ Virus

2. ✔ Phagemid

3. ✘ Cosmid

4. ✘ Phage

**Question Number : 23 Question Id : 2839369063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The length of DNA that is allowed to clone by a P1 cloning vector is

**Options :**

1. ✘ 20 kbp

2. ✘ 50 kbp

3. ✔ 100 kbp

4. ✘ 10 kbp

**Question Number : 24 Question Id : 2839369064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

pYAC3 is

**Options :**

1. ✘ Plasmid vector

2. ✔ Yeast artificial chromosome

3. ✘ Yeast chromosome

4. ✘ Hybrid of phage and plasmid

**Question Number : 25 Question Id : 2839369065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The Restriction enzyme E.CoR1, R stands for .....

**Options :**



1. ✘ Restriction site
2. ✔ RY 13 strain
3. ✘ Replication site on host DNA
4. ✘ Recombination site on host DNA after the action of the enzyme

**Question Number : 26 Question Id : 2839369066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The libraries that are constructed in plasmid vectors could be kept as

**Options :**

1. ✘ Naked DNA
2. ✘ Plasmid containing cells
3. ✘ Plasmid lacking cells
4. ✔ Both plasmid containing cells as well as naked DNA

**Question Number : 27 Question Id : 2839369067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Select a restriction modification system from the following.

**Options :**

1. ✘ DNA ligase + acetylase
2. ✘ DNA ligase + methylase
3. ✔ Restriction endonuclease + methylase
4. ✘ Restriction endonuclease + acetylase

**Question Number : 28 Question Id : 2839369068 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The category of mutation which is not imposed by transposons is .....

**Options :**

1. ✘ Polar mutation
2. ✘ Frame shift mutation
3. ✔ Induced mutation
4. ✘ Reverse mutation

**Question Number : 29 Question Id : 2839369069 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A tissue graft between two people who are not genetically identical is termed as

**Options :**

1. ✘ Isograft
2. ✔ Allograft
3. ✘ Xenograft
4. ✘ Autograft

**Question Number : 30 Question Id : 2839369070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The Maxam Gilbert method involves which type of DNA breakdown?

**Options :**

1. ✔ Base-specific
2. ✘ Interstitial
3. ✘ Gene-specific
4. ✘ Edge

**Question Number : 31 Question Id : 2839369071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which of these enzymes is sensitive to high temperatures?

**Options :**

1. ✘ pfu polymerase
2. ✔ DNA polymerase III
3. ✘ Vent polymerase
4. ✘ Taq polymerase

**Question Number : 32 Question Id : 2839369072 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which of the following is not a polymorphic marker?

**Options :**

1. ✘ Microsatellites
2. ✘ SNPs
3. ✘ RFLP
4. ✔ TALENS

**Question Number : 33 Question Id : 2839369073 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time**

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

CRISPR cas was identified as an immunological mechanism in

Options :

1. ✘ Fungi
2. ✘ Cancer cells
3. ✔ Bacteria
4. ✘ Plant cell

Question Number : 34 Question Id : 2839369074 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Common name of *Apis mellifera*

Options :

1. ✘ Microsporidium
2. ✘ Yeast
3. ✘ Fruit fly
4. ✔ Honeybee

Question Number : 35 Question Id : 2839369075 Question Type : MCQ Option Shuffling : Yes

**Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In a laboratory experiment the catalytic activity of an enzyme is enhanced by mutating a specific aminoacid in the active site by

**Options :**

1. ✘ PCR
2. ✔ Site directed mutagenesis
3. ✘ Cloning
4. ✘ Transformation

**Question Number : 36 Question Id : 2839369076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The allergic reaction is mediated by which type of immunoglobulin

**Options :**

1. ✘ IgA
2. ✔ IgE
3. ✘ IgG
4. ✘ IgM

Question Number : 37 Question Id : 2839369077 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The antibody which reacts with small chemical groups on antigen are called as

Options :

1. ✘ Paratope
2. ✘ Allotope
3. ✔ Epitope
4. ✘ Isotope

Question Number : 38 Question Id : 2839369078 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The memory cells persist in -----

Options :

1. ✘ Spleen
2. ✘ Liver
3. ✘ Kidney
4. ✔ Bone marrow

**Question Number : 39 Question Id : 2839369079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The type of immunity provided in infant or foetus by IgG and IgA antibodies is called as

**Options :**

1. ✘ Artificial Active Immunity
2. ✘ Artificial Passive Immunity
3. ✘ Natural Active Immunity
4. ✔ Natural Passive Immunity

**Question Number : 40 Question Id : 2839369080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which of the following is produced due to natural humoral immune response against pathogens

**Options :**

1. ✘ Monoclonal antibodies
2. ✔ Polyclonal antibodies
3. ✘ Macrophages
4. ✘ Serum



**Question Number : 41 Question Id : 2839369081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The medium used for selection of hybrid cells in hybridoma technology

**Options :**

1. ✘ X-gal medium
2. ✘ MS medium
3. ✔ HAT medium
4. ✘ Mac conkey medium

**Question Number : 42 Question Id : 2839369082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The cell that are made by deficiency of Hypoxanthine-guanine phosphoribosyl transferase (HGPRT)

**Options :**

1. ✔ Myeloma cells
2. ✘ B cells
3. ✘ T cells

4. ✘ Hybrid cells

Question Number : 43 Question Id : 2839369083 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Component C3b in complement system helps in

Options :

1. ✘ An anaphylatoxin
2. ✔ Opsonization of bacteria
3. ✘ Chemotactic
4. ✘ Inactive form of C3

Question Number : 44 Question Id : 2839369084 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Salk and Sabin both are used as ----- vaccine

Options :

1. ✘ Hepatitis A
2. ✔ Polio
3. ✘ HIV

4. ✘ COVID-19

Question Number : 45 Question Id : 2839369085 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The disease/syndrome caused due to presence of anti-TSH receptor antibody associated with autoimmune thyroid disorder is

Options :

1. ✔ Grave's disease
2. ✘ Hashimoto thyroiditis
3. ✘ Goodpasture syndrome
4. ✘ Hurler Syndrome

Question Number : 46 Question Id : 2839369086 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

CO<sub>2</sub> is required in the maintenance of animal cell lines as it provides

Options :

1. ✔ pH maintenance
2. ✘ Carbons source

3. ✘ To neutralise toxins

4. ✘ For protein production

**Question Number : 47 Question Id : 2839369087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

What is the plasma membrane composed of?

**Options :**

1. ✘ A phospholipid bilayer

2. ✘ Multiple layers of phospholipids

3. ✘ A single layer of phospholipids plus embedded proteins

4. ✔ A phospholipid bilayer plus embedded proteins

**Question Number : 48 Question Id : 2839369088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Micro carriers used in animal cell culture are intended for .....purpose

**Options :**

1. ✘ Nutrition layer

2. ✘ Growth

3. ✘ Cell aggregation

4. ✔ Anchorage

**Question Number : 49 Question Id : 2839369089 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....non tumorigenic cell line was used for the production of poliomyelitis vaccine

**Options :**

1. ✘ PER

2. ✔ Vero

3. ✘ MDCK

4. ✘ Hela

**Question Number : 50 Question Id : 2839369090 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The Osmolarity of medium used for animal cell line cultivation is preferred at .....m  
Osmoles

**Options :**

1. ✘ 100 – 120

2. ✓ 260 – 320

3. ✗ 400 – 490

4. ✗ 500 – 600

**Question Number : 51 Question Id : 2839369091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The most abundant enzyme present on earth due to plants

**Options :**

1. ✓ RuBisCo

2. ✗ Triose phosphate isomerase

3. ✗ Trypsin

4. ✗ Lipase

**Question Number : 52 Question Id : 2839369092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The capability of single cells to divide for the production of completely differentiated cells resulting into a complete organism is known as

**Options :**

1. ✘ Unipotent
2. ✔ Totipotency
3. ✘ Multipotent
4. ✘ Pluripotent

**Question Number : 53 Question Id : 2839369093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The plant which obtains its necessary nutrients by trapping insects

**Options :**

1. ✔ Nepenthes
2. ✘ Orchids
3. ✘ Papyrus
4. ✘ Ferns

**Question Number : 54 Question Id : 2839369094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which of the following is an example of transformed root culture

**Options :**

1. ✘ Tap root
2. ✘ Meristem
3. ✔ Hairy root
4. ✘ Protoplast

**Question Number : 55 Question Id : 2839369095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The molecules called Elicitors are used in plant biotechnology to

**Options :**

1. ✘ induce cell division
2. ✔ stimulate secondary metabolite's production
3. ✘ stimulate hairy root formation
4. ✘ induce DNA replication

**Question Number : 56 Question Id : 2839369096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**



Ethanol, a secondary metabolite is produced in.....phase of growth by yeast

**Options :**

1. ✘ Lag phase
2. ✘ Log phase
3. ✔ Prediauxic phase
4. ✘ Death phase

**Question Number : 57 Question Id : 2839369097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

During downstream processing which of the following does not occur

**Options :**

1. ✘ Product purification
2. ✘ Product recovery
3. ✔ Media formulation
4. ✘ Cell lysis

**Question Number : 58 Question Id : 2839369098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which order is followed when substrate concentration is high in enzyme catalyzed reactions

**Options :**

1. ✘ Second order
2. ✔ First order
3. ✘ Steady state
4. ✘ Zero order

**Question Number : 59 Question Id : 2839369099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Exponential phase is of longer duration in which mode of fermentation

**Options :**

1. ✘ Batch
2. ✔ Continuous
3. ✘ Semi batch
4. ✘ Closed batch

**Question Number : 60 Question Id : 2839369100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time**

**: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

..... explains dissolution of gases in liquid and partial pressure

**Options :**

1. ✘ Law of mass action
2. ✔ Henry's law
3. ✘ Law of chemical combination
4. ✘ Boyle's law

**Question Number : 61 Question Id : 2839369101 Question Type : MCQ Option Shuffling : Yes**

**Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time**

**: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The volumetric mass transfer coefficient parameter in a fermentation broth indicates

**Options :**

1. ✔ The rate of oxygen used for Fermentation
2. ✘ Amount of medium entering the microbial cell
3. ✘ Ratio of total volume to total mass in the fermenter
4. ✘ Agitation speed in the fermenter

**Question Number : 62 Question Id : 2839369102 Question Type : MCQ Option Shuffling : Yes**

**Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is a non-Newtonian fluid

**Options :**

1. ✘ Water
2. ✔ Blood
3. ✘ Mineral oil
4. ✘ Gasoline

**Question Number : 63 Question Id : 2839369103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....biosensors measure current flow between electrodes during a redox reaction

**Options :**

1. ✘ Potentiometric
2. ✔ Amperometric
3. ✘ Calorimetric
4. ✘ Piezoelectric

Question Number : 64 Question Id : 2839369104 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....is preferred in air sterilization in bioreactors

Options :

1. ✓ Steam sterilization
2. ✗ Heat sterilization
3. ✗ Chemical sterilization
4. ✗ Radiation

Question Number : 65 Question Id : 2839369105 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

While using enzymes for enzyme bioreactors, .....is a cost-effective method

Options :

1. ✓ Immobilised enzymes
2. ✗ Free soluble enzymes
3. ✗ Thermostable enzymes
4. ✗ Shear resistant enzymes

Question Number : 66 Question Id : 2839369106 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The preferred organism used in citric acid fermentation is

Options :

1. ✘ E.coli
2. ✘ Lactobacilli
3. ✔ Aspergillus niger
4. ✘ Bacillus subtilis

Question Number : 67 Question Id : 2839369107 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Precipitation of protein by salting out method is carried out by-----

Options :

1. ✘ Calcium chloride
2. ✔ Ammonium sulphate
3. ✘ Sodium chloride
4. ✘ Ammonium hydroxide

Question Number : 68 Question Id : 2839369108 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Diatomaceous earth matrix is used in which immobilization method

Options :

1. ✘ Adsorption
2. ✘ Covalent bonding
3. ✔ Entrapment
4. ✘ Membrane confinement

Question Number : 69 Question Id : 2839369109 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

L-alanine is produced by using the immobilized enzyme called

Options :

1. ✘ Lactase
2. ✘ Invertase
3. ✘ Lipase
4. ✔ Aspartate 4-decarboxylase

Question Number : 70 Question Id : 2839369110 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....are major polysaccharide component of structural scaffold of the biofilms  
produced by bacterial colonies

Options :

1. ✘ Teichoic acid
2. ✔ Exopolysaccharides
3. ✘ N-Acetyl glucosamine
4. ✘ Mannitol

Question Number : 71 Question Id : 2839369111 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....is a method for disposal of biomedical waste in hospitals

Options :

1. ✘ Landfill
2. ✘ Recycling
3. ✘ Vermicomposting
4. ✔ Incineration



**Question Number : 72 Question Id : 2839369112 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Phytoremediation involves use of .....

**Options :**

1. ✘ methanogenic bacteria
2. ✘ microbes for degradation of hazardous materials
3. ✘ aerobic bacteria to clean up hazardous materials
4. ✔ plants for clean-up of hazardous materials

**Question Number : 73 Question Id : 2839369113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is an example mainly of Anaerobic digestion

**Options :**

1. ✔ Biogas production
2. ✘ Composting
3. ✘ Sewage treatment
4. ✘ Effluent treatment

**Question Number : 74 Question Id : 2839369114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....process involves microbial extraction of metals from their ores

**Options :**

1. ✘ Bioaugmentation
2. ✔ Bioleaching
3. ✘ Bioprocessing
4. ✘ Bioremediation

**Question Number : 75 Question Id : 2839369115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is used in purification of recombinant protein by affinity chromatography

**Options :**

1. ✘ Fc fragment
2. ✔ His tag
3. ✘ Resins
4. ✘ Carriers

Question Number : 76 Question Id : 2839369116 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The range of molecular weight cut for ultrafiltration should be close to

Options :

1. ✘ 0.1 kDa

2. ✘ 0.5 kDa

3. ✘ 1 kDa

4. ✔ 10 kDa

Question Number : 77 Question Id : 2839369117 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....enzymes are used in liquid detergents

Options :

1. ✘ Polymerases

2. ✘ Nucleases

3. ✔ Lipases

4. ✘ Papain

**Question Number : 78 Question Id : 2839369118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

For the production of probiotic biomass, the growth phase be better maintained in .....phase

**Options :**

1. ✓ Log phase
2. ✗ Stationary phase
3. ✗ Lag phase
4. ✗ Extra lag phase

**Question Number : 79 Question Id : 2839369119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Pencillin produced by *Penicillium chrysogenum* is found to inhibit growth of

**Options :**

1. ✓ Gram positive bacteria
2. ✗ Gram negative bacteria
3. ✗ Fungus
4. ✗ Algae

**Question Number : 80 Question Id : 2839369120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is a pigment found in humans

**Options :**

1. ✘ Myoglobin
2. ✔ Hemoglobin
3. ✘ Glycogen
4. ✘ Porphyrin

**Question Number : 81 Question Id : 2839369121 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....enzymes play a key role in transition between supercoiled and relaxed forms of DNA

**Options :**

1. ✘ Helicases
2. ✔ Topoisomerases
3. ✘ DNA polymerases

#### 4. ✘ DNA ligases

Question Number : 82 Question Id : 2839369122 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In the Rho independent transcription termination pauses RNA polymerases

Options :

1. ✘ 3'UTS region
2. ✔ GC rich dyad symmetry of DNA and a stretch of Uridines
3. ✘ Dissociation of DNA from the RNA polymerase
4. ✘ Si RNA

Question Number : 83 Question Id : 2839369123 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Eukaryotic transcription, ribosome binding to the mRNA is assisted by

Options :

1. ✔ 5' cap
2. ✘ Shine – Dalgarno sequence
3. ✘ 3' tail

4. ✘ Randomly

Question Number : 84 Question Id : 2839369124 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

.....can act independent of their orientation

Options :

1. ✘ TATA box

2. ✘ Regulator

3. ✘ CAAT box

4. ✔ Enhancer

Question Number : 85 Question Id : 2839369125 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In Eukaryotic organisms, the transcriptional gene control process is mediated by

Options :

1. ✘ proteins that bind to the cis-acting elements

2. ✘ metabolites failing to bind to cis-acting elements

3.

✓ trans-acting factors those binds to cis-acting elements

4. ✘ enhancer proteins that bind to operator sites

**Question Number : 86 Question Id : 2839369126 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A test cross frequently used in genotype identification in breeding process is a

**Options :**

1. ✘ crossing between two dominant homozygotes

2. ✘ crossing of a dominant homozygote with a recessive heterozygote

3. ✘ crossing between two  $F_2$  hybrids

4. ✓ crossing of an  $F_1$  hybrid with a recessive homozygote

**Question Number : 87 Question Id : 2839369127 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In gene interactions, which of the following ratio satisfies complementary way?

**Options :**

1. ✘ 15:1

2. ✓ 9:7



3. ✘ 1:2:1

4. ✘ 9:3:3:1

**Question Number : 88 Question Id : 2839369128 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A centimorgan is used in genetics to measure

**Options :**

1. ✔ Genetic recombination frequency

2. ✘ Test cross results

3. ✘ Number of double cross overs

4. ✘ Length of the gene

**Question Number : 89 Question Id : 2839369129 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

To map the genes accurately, which of the following mapping is used?

**Options :**

1. ✘ Single gene mapping

2. ✘ Two point mapping
3. ✔ Three point mapping
4. ✘ Four point mapping

**Question Number : 90 Question Id : 2839369130 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The extensive phenotypic variations related to cytoplasm specific to some traits at cellular level is due to

**Options :**

1. ✘ Genetic effect
2. ✔ Different proportions of cytoplasmic genes
3. ✘ Environment effects
4. ✘ Epigenetic modifications

**Question Number : 91 Question Id : 2839369131 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Monoploidy in plants can arise due to

**Options :**

1. ✘ Mutations

2. ✓ Parthenogenesis

3. ✗ Upon colchicine treatment

4. ✗ Genetic recombination

**Question Number : 92 Question Id : 2839369132 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which of the following is the process through which some species travel from their origin to a new place leading to allele frequency variation?

**Options :**

1. ✗ genetic drift

2. ✓ gene migration

3. ✗ gene crossover

4. ✗ gene draft

**Question Number : 93 Question Id : 2839369133 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In transposable elements, direct repeats in IS element are located

**Options :**

1. ✘ Within the transposon
2. ✘ Above the inverted repeat
3. ✔ Either side of the IS element
4. ✘ Below the inverted repeat

**Question Number : 94 Question Id : 2839369134 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In a family, if the father is with a disease and the mother is not, while the daughters shows the same disease, but not the sons. Name this.

**Options :**

1. ✔ Sex-linked dominant
2. ✘ Autosomal recessive
3. ✘ Sex-linked recessive
4. ✘ Autosomal dominant

**Question Number : 95 Question Id : 2839369135 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

A population was calculated for two genes A and B. 100 people in the population are sampled. 50 people contained AA, 20AB, 30BB. Calculate the gene frequency of A and B.

**Options :**

1. ✘ frequency of gene A is 0.5 and B is 0.5
2. ✔ frequency of gene A is 0.6 and B is 0.4
3. ✘ frequency of gene A is 50 and B is 50
4. ✘ frequency of gene A is 0.5 and B is 0.3

**Question Number : 96 Question Id : 2839369136 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Which type of ribosomes are found in Prokaryotes

**Options :**

1. ✘ 80s
2. ✔ 70s
3. ✘ 20s
4. ✘ 18s

**Question Number : 97 Question Id : 2839369137 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Lipoteichoic acids (LTA) are found in

**Options :**

1. ✓ Gram +ve bacteria
2. ✗ Gram -ve bacteria
3. ✗ Plant cell wall
4. ✗ Animal cell

**Question Number : 98 Question Id : 2839369138 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The extremophile that grows at low temperature conditions are called as

**Options :**

1. ✗ Acidophilic
2. ✗ Thermophilic
3. ✓ Psychrophilic
4. ✗ Halophilic

**Question Number : 99 Question Id : 2839369139 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time**

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A bacterial culture was inoculated which showed 10 generations after 5 hours. Calculate the doubling time in minutes

Options :

1. ✘ 2

2. ✔ 30

3. ✘ 5

4. ✘ 50

Question Number : 100 Question Id : 2839369140 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A .....is used to maintain the concentration of medium composition constant.

Options :

1. ✘ Turbidostat

2. ✘ Bioreactor

3. ✔ Chemostat

4. ✘ Fermenter

Question Number : 101 Question Id : 2839369141 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In pharma industry sterility testing is done by

Options :

1. ✘ Agar medium
2. ✘ MacConkey agar
3. ✔ Thioglycollate Medium
4. ✘ Mannitol salt agar

Question Number : 102 Question Id : 2839369142 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During anerobic respiration,  $\text{CH}_4$  production by utilization of  $\text{CO}_2$  as final electron acceptors  
is carried out by which group of organisms

Options :

1. ✔ Methanogens
2. ✘ Methylotrophs
3. ✘ Autotrophs
4. ✘ Methanotrophs



**Question Number : 103 Question Id : 2839369143 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Auxotrophic mutants can be detected by .....

**Options :**

1. ✘ Streak plate technique
2. ✘ Spread plate technique
3. ✘ Pour plate technique
4. ✔ Replica plating

**Question Number : 104 Question Id : 2839369144 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

-----are single-stranded RNA without a protein coat

**Options :**

1. ✘ Viruses
2. ✘ Bacteria
3. ✘ Prions
4. ✔ Viroids

**Question Number : 105 Question Id : 2839369145 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

Better transformation efficiency is expected in bacteria ..... phase of growth

**Options :**

1. ✓ Mid log
2. ✗ Lag
3. ✗ Stationary
4. ✗ Independent parameter

**Question Number : 106 Question Id : 2839369146 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The percentage of nitrogen in air is

**Options :**

1. ✓ 78
2. ✗ 21
3. ✗ 4
4. ✗ 12

Question Number : 107 Question Id : 2839369147 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is a promising nitrogen fixer?

Options :

1. ✘ Bean plant
2. ✔ Rhizobium
3. ✘ Rhizosphere
4. ✘ Leguminous plants

Question Number : 108 Question Id : 2839369148 Question Type : MCQ Option Shuffling : Yes  
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time  
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Corona virus contains.....as genetic material

Options :

1. ✔ RNA
2. ✘ DNA
3. ✘ Protein
4. ✘ RNA-DNA

**Question Number : 109 Question Id : 2839369149 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....is used in the cleaning of laboratory glassware

**Options :**

1. ✘ Autoclave sterilisation
2. ✔ Chromic acid
3. ✘ Formaldehyde
4. ✘ Incineration

**Question Number : 110 Question Id : 2839369150 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The frame shift mutation can occur due to

**Options :**

- Insertion or deletion of a number of nucleotides that is not a multiple of three in the
1. ✔ coding region
  2. ✘ Protein termination due to nonsense mutation
  3. ✘ Insertion of U for G by substitution mutation
  4. ✘ Insertion of hydrophobic amino acids by missense mutation

**Question Number : 111 Question Id : 2839369151 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....enzyme of glycolysis can be considered as flux generating step of glycolysis

**Options :**

1. ✘ Hexokinase
2. ✔ Phosphofructokinase
3. ✘ Aldolase
4. ✘ Triose isomerase

**Question Number : 112 Question Id : 2839369152 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

.....ATP are produced if one complete oxidative cycle of TCA occurs which starts with citrate formation to regeneration of oxaloacetate

**Options :**

1. ✔ 12
2. ✘ 2
3. ✘ 5

4. ✘ 20

**Question Number : 113 Question Id : 2839369153 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The Enzyme commission number of Adenylate kinase is 2.7.4.3. What does 7 indicate as per EC number

**Options :**

1. ✘ Class of the enzyme
2. ✘ Type of reaction catalysed by the enzyme
3. ✘ Moles of substrate converted
4. ✔ Sub class of the enzyme class transfereases

**Question Number : 114 Question Id : 2839369154 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In oxidative phosphorylation the energy required for phosphorylation of ADP to ATP is provided by

**Options :**

1. ✔ Electrochemical potential of protons
2. ✘ F1 ATP synthase

3. ✘ F0 ATP synthase

4. ✘ NADH

**Question Number : 115 Question Id : 2839369155 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The molarity of commercial HCl is ~11N. Theoretically how much amount of commercial HCl is required to prepare 0.1N HCl of 25 ml solution.

**Options :**

1. ✘ 3.6 ml

2. ✔ 0.22 ml

3. ✘ 36 ml

4. ✘ 25 ml

**Question Number : 116 Question Id : 2839369156 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The chemical formula of glucose is  $C_6H_{12}O_6$ . What is the weight (grams) of one mole of glucose

**Options :**

1. ✘ 60

2. ✘ 120

3. ✔ 180

4. ✘ 240

**Question Number : 117 Question Id : 2839369157 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The following compound can show buffering capacity and follows Handerson Hasselbalch formula

**Options :**

1. ✘ HCl

2. ✘ H<sub>2</sub>SO<sub>4</sub>

3. ✔ Acetic acid

4. ✘ HNO<sub>3</sub>

**Question Number : 118 Question Id : 2839369158 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

The molecular weight of NaOH is 40. To prepare 0.4M solution of 100 ml how much amount of NaOH is required.

**Options :**



1. ✘ 1 g

2. ✘ 4 g

3. ✔ 1.6 g

4. ✘ 40 mg

**Question Number : 119 Question Id : 2839369159 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

In which phase of cell cycle DNA is synthesised

**Options :**

1. ✘ G0 Phase

2. ✔ S phase

3. ✘ G2 phase

4. ✘ M phase

**Question Number : 120 Question Id : 2839369160 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Wrong Marks : 0**

ping pong mechanism is related to .....enzyme kinetics

**Options :**

1. ✘ Reversible
2. ✘ Irreversible
3. ✘ Single substrate
4. ✔ Bisubstrate