

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.

Question Paper Name :

Bio Technology 12th Aug 2021 Shift 1

Subject Name :

Bio Technology

Creation Date :

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Duration :

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Total Marks :

120

Display Marks:

Yes

Calculator :

None

Magnifying Glass Required? :

No

Ruler Required? :

No

Eraser Required? :

No

Scratch Pad Required? :

No

Rough Sketch/Notepad Required? :

No

Protractor Required? :

No

Show Watermark on Console? :

Yes

Highlighter :

No

Auto Save on Console? :

Yes

Bio Technology

Group Number :

1

Group Id :

63643131

Group Maximum Duration :

0

Group Minimum Duration :

120

Show Attended Group? :

No

Edit Attended Group? : No
Break time : 0
Group Marks : 120
Is this Group for Examiner? : No

Mathematics

Section Id : 63643158
Section Number : 1
Section type : Online
Mandatory or Optional : Mandatory
Number of Questions : 10
Number of Questions to be attempted : 10
Section Marks : 10
Enable Mark as Answered Mark for Review and Clear Response : Yes
Sub-Section Number : 1
Sub-Section Id : 63643158
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 6364313601 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If a matrix A is skew symmetric, then

Options :

1. ✓ A has diagonal elements = 0
2. ✗ A has some eigen values = 0
3. ✗ $\text{Det}(A) = 0$

4. ✖ Rank (A) = 0

Question Number : 2 Question Id : 6364313602 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If x is an eigen value of the matrix

$$A = \begin{bmatrix} 0 & 1 & -1 \\ 0 & 2 & -1 \\ 0 & 0 & 1 \end{bmatrix}, \text{ then } x^2 - 3x + 3 =$$

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 4

Question Number : 3 Question Id : 6364313603 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \rightarrow 0} \frac{\tan^2(2x)}{x^2} =$$

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 3

4. ✔ 4

Question Number : 4 Question Id : 6364313604 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If $a_n = \sum_{k=1}^n \frac{1}{4n^2 - 1}$, then $\lim_{n \rightarrow \infty} a_n =$

Options :

1. ✖ 0

2. ✖ 1

3. ✖ $\frac{1}{3}$

4. ✔ $\frac{1}{2}$

Question Number : 5 Question Id : 6364313605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of $\frac{dy}{dx} = \frac{x^2 + 4xy}{4y^3 - 2x^2}$ satisfying $y(0) = 0$ is

Options :

1. ✗ $x^3 + 6xy - 3y^4 = 0$

2. ✗ $x^3 + 6x^2y - 3y^3 = 0$

3. ✓ $x^3 + 6x^2y - 3y^4 = 0$

4. ✗ $x^3 + 6xy^2 - 3y^4 = 0$

Question Number : 6 Question Id : 6364313606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of $\frac{d^3y}{dx^3} + 9\frac{dy}{dx} = \cos 3x$ is

Options :

1. ✓ $\frac{-x}{18} \cos 3x$

2. ✗ $\frac{x}{18} \cos 3x$

3. ✖ $\frac{x}{9} \cos 3x$

4. ✖ $\frac{-x}{9} \cos 3x$

Question Number : 7 Question Id : 6364313607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The solution of $\frac{\partial^3 z}{\partial x^3} - \frac{\partial^3 z}{\partial z^2 \partial y} = 0$ is
(Here f, g, h are arbitrary functions)

Options :

1. ✔ $z = f(x + y) + g(y) + xh(y)$

2. ✖ $z = f(x + y) + g(y) + h(y)$

3. ✖ $z = f(x - y) + g(y) + xh(y)$

4. ✖ $z = f(x - y) + g(y) + h(y)$

Question Number : 8 Question Id : 6364313608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Two numbers x and y are chosen at random from 1, 2, 3, ..., 25. Then the probability that $5x - 7y = 0$ is satisfied is

Options :

1. ✖ $\frac{1}{25}$

2. ✖ $\frac{1}{50}$

3. ✔ $\frac{1}{100}$

4. ✖ $\frac{1}{200}$

Question Number : 9 Question Id : 6364313609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If the elements of a square matrix A of order 2 are 0 and 1 only, then the probability of A to be non-singular is

Options :

1. ✖ $\frac{1}{16}$

2. ✖ $\frac{1}{8}$

3. ✖ $\frac{3}{6}$

4. ✔ $\frac{3}{8}$

Question Number : 10 Question Id : 6364313610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If Δ and E are usual operators, then $\Delta - E =$

Options :

1. ✖ 1

2. ✖ 2

3. ✔ -1

4. ✖ -2

Bio Technology

Section Id :

63643159

Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	63643159
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 6364313611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The suffix in ribosome unit indicates

Options :

1. ✖ Solubility coefficient
2. ✖ Surface area
3. ✖ Size
4. ✔ Sedimentation coefficient

Question Number : 12 Question Id : 6364313612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is in the correct sequence of different phases occurring in mitosis

Options :

1. ✗ Anaphase → Metaphase → Prophase → Telophase → Interphase
2. ✓ Interphase → Prophase → Metaphase → Anaphase → Telophase
3. ✗ Prophase → Anaphase → Telophase → Metaphase → Interphase
4. ✗ Metaphase → Prophase → Anaphase → Interphase → Telophase

Question Number : 13 Question Id : 6364313613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The cell in G_1 of interphase has 12 chromosomes. How many chromatids will be found per cell during metaphase II of meiosis

Options :

1. ✓ 12
2. ✗ 6
3. ✗ 24
4. ✗ 18

Question Number : 14 Question Id : 6364313614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Formation of RNA with DNA as a template is known as

Options :

1. ✓ Transcription
2. ✗ Transduction
3. ✗ Duplication
4. ✗ Replication

Question Number : 15 Question Id : 6364313615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The pH of human saliva lies in the range

Options :

1. ✓ 6.2-7.6
2. ✗ 6.0-7.0
3. ✗ 7.2-8.1

4. ✖ 7.5-8.5

Question Number : 16 Question Id : 6364313616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is the most commonly employed vector

Options :

- 1. ✖ Plastids
- 2. ✖ Ribosomes
- 3. ✔ Plasmids
- 4. ✖ Histones

Question Number : 17 Question Id : 6364313617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What are the colour lights best suitable for plant growth

Options :

- 1. ✖ Blue - Yellow
- 2. ✖ Red - white
- 3. ✔ Blue - Red

4. ✖ Yellow - Green

Question Number : 18 Question Id : 6364313618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Mutagenicity of a compound is checked by

Options :

1. ✔ Ames test

2. ✖ Hay's test

3. ✖ FISH

4. ✖ Guthrie test

Question Number : 19 Question Id : 6364313619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In enzyme kinetics, V_{max} denotes:

Options :

1. ✔ The amount of an active enzyme

2. ✖ Substrate concentration

3. ✖ Half the substrate concentration
4. ✖ Quantity of enzyme substrate complex

Question Number : 20 Question Id : 6364313620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Light-independent reactions in photosynthesis takes place at

Options :

1. ✖ Thylakoid lumen
2. ✖ Photosystem II
3. ✖ Photosystem I
4. ✔ Stroma matrix

Question Number : 21 Question Id : 6364313621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

How many ATP molecules are required to fix one molecule of nitrogen

Options :

1. ✖ 20
2. ✖ 6

3. ✖ 12

4. ✔ 16

Question Number : 22 Question Id : 6364313622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Fluoride ions inhibit which enzyme of the glycolytic pathway

Options :

1. ✖ Hexokinase

2. ✖ Phosphofructokinase

3. ✖ Aldolase

4. ✔ Enolase

Question Number : 23 Question Id : 6364313623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A membrane potential is the difference in electrical charge between

Options :

1. ✖ Potassium and sodium ions

2. ✔ The inside and outside of the cell

3. ✖ Phosphoric acid and glycolipid layers

4. ✖ Resting and action potentials

Question Number : 24 Question Id : 6364313624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Down's syndrome is characterised by

Options :

1. ✖ Momosomy of 21

2. ✖ Trisomy of chromosome X

3. ✖ Trisomy of chromosome Y

4. ✔ Trisomy of chromosome 21

Question Number : 25 Question Id : 6364313625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

All are post transcriptional modifications in mRNA, except

Options :

1. ✖ Modification of bases

2. ✖ Splicing of introns
3. ✔ Trimming of 3' end to CCA sequence
4. ✖ Attachment of poly A tail

Question Number : 26 Question Id : 6364313626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is not true regarding the genetic code

Options :

1. ✖ Degenerate
2. ✔ Ambiguous
3. ✖ Non overlapping
4. ✖ Universal

Question Number : 27 Question Id : 6364313627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In autosomal dominant inheritance, if only one parent is affected

Options :

1. ✓ 50% of the children will be sufferers
2. ✗ 25% of the children will be carriers
3. ✗ 25% of the children will be normal
4. ✗ All the children will be genotypically abnormal.

Question Number : 28 Question Id : 6364313628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Restriction endonuclease

Options :

1. ✓ Cleaves DNA at splice sites
2. ✗ Protects bacterial genome
3. ✗ Hydrolyses DNA from 5' end
4. ✗ Inhibits human DNAP

Question Number : 29 Question Id : 6364313629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which one of the following modes of inheritance is seen in Cystic Fibrosis

Options :

1. ✓ Autosomal recessive
2. ✗ Autosomal dominant
3. ✗ Sex linked
4. ✗ Spontaneous mutation

Question Number : 30 Question Id : 6364313630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Leghaemoglobin creates

Options :

1. ✓ Anaerobic conditions for optimum activity of nitrogenase
2. ✗ Aerobic conditions for optimum activity of nitrogenase
3. ✗ Suitable environment for nodule formation
4. ✗ Required oxygen concentration for optimum activity of nitrogenase

Question Number : 31 Question Id : 6364313631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The role of bacteriopheophytin in an oxygenic photosynthesis is to

Options :

1. ✘ Reduce ferridoxin directly
2. ✘ Reduce nadp directly
3. ✔ Use light energy to energize an electron
4. ✘ Transfer electrons to an intermediate in the sulfide oxidation pathway

Question Number : 32 Question Id : 6364313632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hemophilia A, a common X-linked bleeding disorder is caused due to lack of function of a gene for

Options :

1. ✔ Factor VIII
2. ✘ Factor VII
3. ✘ Platelets
4. ✘ Fibrinogen

Question Number : 33 Question Id : 6364313633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following organelle is surrounded by a single membrane

Options :

1. ✗ Chloroplast
2. ✗ Mitochondria
3. ✓ Peroxisome
4. ✗ Nucleus

Question Number : 34 Question Id : 6364313634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which one of the following statements about associative nitrogen fixing bacteria is NOT true?

Options :

1. ✗ *Rhodobacter* and *Rhodospirillum* are autotrophic photosynthetic N-fixing bacteria
2. ✗ *Clostridium*, *Desulfotomaculum* and *Desulfovibrio* are heterotrophic anaerobic N-fixing bacteria
3. ✓ *Azospirillum* is an associative autotrophic microaerophilic nitrogen fixing bacteria

4. ✘ *Beijerinckia* is an heterotrophic aerobic associative nitrogen fixing bacteria

Question Number : 35 Question Id : 6364313635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

LDL binds with cell surface receptor and gets internalized via clathrin-mediated endocytosis. This process helps in maintaining the cholesterol-LDL level in the plasma. However, in a disease known as familial hypercholesterolemia (FH), very high levels of plasma cholesterol is found. This could be due to mutation in which one of the following genes in FH patients

Options :

- 1. ✘ Clathrin
- 2. ✘ LDL
- 3. ✔ LDL receptor
- 4. ✘ Adaptor

Question Number : 36 Question Id : 6364313636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Growth yield coefficient is defined as the ratio of

Options :

- 1. ✔ Cell mass formed to substrate utilized

2. ✖ Substrate utilized to cell mass formed
3. ✖ Product formed to cell mass formed
4. ✖ Carbon dioxide produced to substrate utilized

Question Number : 37 Question Id : 6364313637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A researcher made an interesting observation about a protein made by the rough ER and eventually used to build a cell's plasma membrane. The protein in the membrane was slightly different from the protein made in the ER. The protein was probably changed in the

Options :

1. ✔ Golgi apparatus
2. ✖ Smooth ER
3. ✖ Mitochondrion
4. ✖ Nucleus

Question Number : 38 Question Id : 6364313638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Influenza virus contains 11 proteins, of which the two major glycoproteins are H and N. What do H and N stand for in influenza strains nomenclature

Options :

1. ✘ H: Hemagglutinin; N: Nucleoprotein
2. ✔ H: Hemagglutinin; N: Neuraminidase
3. ✘ H: Hyaluronidase; N: Nucleoprotein
4. ✘ H: Hyaluronidase; N: Neuraminidase

Question Number : 39 Question Id : 6364313639 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is NOT enriched in eukaryotic promoters located in active chromatin

Options :

1. ✘ Acetylated histones
2. ✘ DNase I hypersensitive sites
3. ✔ Methylated cytosine
4. ✘ Bound TFIID

Question Number : 40 Question Id : 6364313640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Glycosylation of membrane proteins and lipids is carried out by enzymes present in the lumen of endoplasmic reticulum and Golgi. The glycosylated part of membrane proteins and lipids in the plasma membrane is likely to be

Options :

1. ✖ Oriented towards the cytosol

2. ✔ Exposed to the extracellular environment

3. ✖ The glycosylated parts of the proteins are towards the cytoplasm but glycosylated lipids are exposed to the extracellular environment

4. ✖ The glycosylated parts of the lipids are towards the cytoplasm but glycosylated proteins are exposed to the extracellular environment

Question Number : 41 Question Id : 6364313641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A given cytokine has different biological effects on different target cells. This is known as

Options :

1. ✖ Redundancy

2. ✖ Synergy

3. ✖ Totipotency

4. ✔ Pleiotropy

Question Number : 42 Question Id : 6364313642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fusicoccin promotes cotyledon growth by promoting

Options :

1. ✖ Cell division

2. ✖ Cell wall biosynthesis

3. ✖ Tonoplast acidification

4. ✔ Cell wall acidification

Question Number : 43 Question Id : 6364313643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a sulphur containing secondary metabolite in mustard plant derived from glucose and an amino acid

Options :

1. ✓ Glucosinolates
2. ✗ Phytoalexins
3. ✗ Ecdysones
4. ✗ Gynogenic glycosides

Question Number : 44 Question Id : 6364313644 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following statements regarding naturally occurring *Agrobacterium* strains is true

Options :

1. ✗ The T-DNA region of *Agrobacterium* does not contain functional genes.
2. ✗ All the *virulence genes* of *Agrobacterium* are constitutively expressed
3. ✗ *Agrobacterium*-induced galls require exogenous application of phytohormones for their growth.
4. ✓ *Agrobacterium*-induced galls in nature do not require bacterial persistence for their growth.

Question Number : 45 Question Id : 6364313645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A typical flowering plant has a combination of sporophytic (diploid) and gametophytic (haploid) tissues. Which of the following types of plant tissues do NOT contribute to the formation of a mature fruit

Options :

1. ✖ Sporophytic tissue from the previous generation
2. ✖ Gametophytic tissue from the previous generation
3. ✖ Sporophytic tissue from the next generation
4. ✔ Gametophytic tissue from the next generation

Question Number : 46 Question Id : 6364313646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The *Rht* mutations in wheat that were pivotal for 'Green Revolution' reduce plant height due to impairment in

Options :

1. ✖ Gibberellic acid biosynthesis pathway
2. ✔ Gibberellic acid signaling pathway

3. ✖ Auxin biosynthetic pathway

4. ✖ Auxin response pathway

Question Number : 47 Question Id : 6364313647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Verification of cultured explants caused by

Options :

1. ✔ Low light irradiance, high temperature and intensive sterilization

2. ✖ High auxin, low temperature and high light irradiance

3. ✖ Higher agar, high nutrients and low pH

4. ✖ High pH, low temperature and high micronutrient concentration

Question Number : 48 Question Id : 6364313648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Arabidopsis is advantageous for plant genetic research because

Options :

1. ✖ It is commercially important as a food crop

2. ✖ It is having longer life cycle

3. ✔ It is a small plant with a small genome size which can be raised inexpensively

4. ✖ It is a close relative of corn and results with this species can be applied to problems in corn

Question Number : 49 Question Id : 6364313649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Clean gene technology in developing transgenic plants means

Options :

1. ✖ Transgenic plants without marker genes

2. ✔ Transgenic plants with provision of removing marker gene after transformation

3. ✖ Plant obtained with conventional breeding approach

4. ✖ Transgenic plants obtained through plastid transformation

Question Number : 50 Question Id : 6364313650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which one of the following combinations of marker genes and promoters CANNOT be used for selection of transgenic plants under *in vitro* conditions

Options :

1. ✗ Positive selection marker genes under the *Agrobacterium*-derived NOS promoter
2. ✗ Conditional negative selection marker genes under an inducible promoter
3. ✗ Positive selection marker genes under camv 35S promoter
4. ✓ Non-conditional negative selection marker genes under CaMV 35S promoter

Question Number : 51 Question Id : 6364313651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Two independent transgenic plants, one with single copy of gene A and another with single copy of gene B were expressed under the same seed-specific promoter. In transgenic plants, seed formation on self-pollination was similar to that of untransformed plants. When homozygous plants with gene A (male parent) were crossed with homozygous plants with gene B (female parent), viable seed formation did not occur although, pollen production was normal. What could be the possible reason for this observation

Options :

1. ✗ Product of gene A is lethal to the male gametophyte

2. ✓ Interaction between products of genes A and B is lethal to the zygote

3. ✗ Interaction between products of genes A and B is lethal to the male gametophyte

4. ✗ Product of gene B is lethal to the zygote

Question Number : 52 Question Id : 6364313652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following would produce androgenic haploids in anther culture

Options :

1. ✗ Anther wall

2. ✗ Tapetal layer

3. ✗ Connective tissue

4. ✓ Young microspores

Question Number : 53 Question Id : 6364313653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A method in which a strong enhancer is randomly inserted in a plant genome by transformation, resulting in mutant plants with dominant phenotypes, is known as

Options :

1. ✖ Enhancer trapping
2. ✖ Tilling
3. ✔ Activation tagging
4. ✖ Gene trapping

Question Number : 54 Question Id : 6364313654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What do you mean by “Nutrient répression”

Options :

1. ✔ Inhibition of unwanted enzyme production
2. ✖ Production of unwanted enzymes
3. ✖ Inhibition of cell nutrients
4. ✖ Production of waste

Question Number : 55 Question Id : 6364313655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What is the inactivated COVID vaccine produced by Bharat Biotech, using a sample of the coronavirus, isolated by India's National Institute of Virology

Options :

1. ✓ Covaxin
2. ✗ Covishield
3. ✗ ZyCoV-D
4. ✗ BNT162

Question Number : 56 Question Id : 6364313656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following purified enzyme is used in pharmaceutical industry

Options :

1. ✗ Subtilisin
2. ✗ Novozym-435
3. ✗ Bromelain
4. ✓ Asparaginase

Question Number : 57 Question Id : 6364313657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

D-aminoacids are used in the production of _____

Options :

1. ✗ Glucose syrups
2. ✗ Low calorific sweetener
3. ✓ Insecticides
4. ✗ Sunscreen agents

Question Number : 58 Question Id : 6364313658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Immobilized _____ is prepared by entrapping Escherichia coli cells in a k-carageenan gel cross-linked with glutaraldehyde and hexamethylenediamine.

Options :

1. ✗ Raffinase
2. ✗ Lactase
3. ✓ Aspartase

4. ✖ Aminoacylase

Question Number : 59 Question Id : 6364313659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

One major factor that must be addressed for the use of biphasic systems in many enzyme-catalyzed reactions is _____

Options :

- 1. ✖ Solvent polarity
- 2. ✖ Inactivation of the enzyme
- 3. ✔ Stability of the enzyme
- 4. ✖ Partition coefficient

Question Number : 60 Question Id : 6364313660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In the following chemicals which one is not used to isolate enzymes from cell free extract

Options :

- 1. ✔ 1.4% buffered sucrose

2. ✖ Cetyl trimethyl ammonium bromide

3. ✖ Nucleases

4. ✖ Streptomycin sulphate

Question Number : 61 Question Id : 6364313661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Enzymes can be isolated from cell free extract by which one of the following methods

Options :

1. ✖ Osmotic shock

2. ✖ Alkali treatment

3. ✔ Factors like pH, temperature and low ionic strength

4. ✖ Ultrasonication

Question Number : 62 Question Id : 6364313662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following property may not be improved or altered using genetic engineering

Options :

- 1. ✗ Enzymes from dangerous or unapproved microorganisms may be cloned into safe high-production microorganisms
- 2. ✗ Enzymes from slow growing or limited plant or animal tissue may be cloned into safe high-production microorganisms
- 3. ✓ If the biosensor is to be used for invasive monitoring in clinical situations, the probe must be tiny and biocompatible, having no toxic or antigenic effects
- 4. ✗ Enzymes may be redesigned to fit more appropriately into industrial processes

Question Number : 63 Question Id : 6364313663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is not a step in producing penicillin-G-amidase

Options :

- 1. ✗ Cleavage by Hind III
- 2. ✓ Replacement of asparagine residue with serine present in the native enzyme
- 3. ✗ Cleaved fragments cloned into a cosmid vector
- 4. ✗ Penicillin-G-amidase gene transferred on to pBR322 plasmids

Question Number : 64 Question Id : 6364313664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following techniques may not be used to produce thermophilic enzymes

Options :

1. ✗ Internal salt link
2. ✗ Extra internal hydrophobic residues
3. ✗ Suitable exterior substitutions

- Primary structure of putative enzyme is proposed with an asparagine residue replacing the serine present in the native enzyme
4. ✓

Question Number : 65 Question Id : 6364313665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following micro-organisms do not produce lactase

Options :

1. ✓ Trichoderma reesei
2. ✗ Kluyveromyces fragilis

3. ✖ Aspergillus Niger

4. ✖ Aspergillus Oryzae

Question Number : 66 Question Id : 6364313666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is not an application for the use of lactase in industries

Options :

1. ✖ Production of ice-creams

2. ✖ Production of sweetened flavored milk

3. ✔ Meat tenderization

4. ✖ Production of condensed milk

Question Number : 67 Question Id : 6364313667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What is the other name for biological filtration

Options :

1. ✖ Oxygen cycle

2. ✓ Nitrogen cycle

3. ✗ Carbon cycle

4. ✗ Methane cycle

Question Number : 68 Question Id : 6364313668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the law behind filtration

Options :

1. ✓ Darcy's law

2. ✗ Henry's law

3. ✗ Dalton's law

4. ✗ Newton's law

Question Number : 69 Question Id : 6364313669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the media used in chemical filtration

Options :

1. ✗ Soap
2. ✗ Detergents
3. ✗ Salt
4. ✓ Activated carbons

Question Number : 70 Question Id : 6364313670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

During mixed acid fermentation by *E. coli*, which one of the following is **NOT** produced

Options :

1. ✗ Lactic acid
2. ✗ Succinic acid
3. ✓ Citric acid
4. ✗ Ethanol

Question Number : 71 Question Id : 6364313671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The major drawback in using wild type *S. cerevisiae* for producing ethanol from biomass hydrolysate is

Options :

1. ✖ Low biomass yield of hexose sugars
2. ✖ Presence of solid residues
3. ✖ Low concentration of sugars
4. ✔ Non utilization of pentose sugar

Question Number : 72 Question Id : 6364313672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

An anaerobic flask containing 50 ml of media with glucose as the sole carbon source was inoculated with a consortium consisting of *Methanosarcina* and *Bacillus*. After two weeks of incubation, there will be

Options :

1. ✔ No growth
2. ✖ Growth with methane production
3. ✖ Growth with acetate and methane production
4. ✖ Growth with CO₂ production

Question Number : 73 Question Id : 6364313673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which Growth phase is usually longer in continuous culture

Options :

1. ✘ Log
2. ✔ Exponential
3. ✘ Stationary
4. ✘ Death

Question Number : 74 Question Id : 6364313674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The chemostat and turbidostat are the types of bioreactors that are used in which of the following culture

Options :

1. ✘ Batch culture
2. ✔ Continuous culture
3. ✘ Fed-Batch culture

4. ✖ Solid State culture

Question Number : 75 Question Id : 6364313675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which one of the following statements is **WRONG** for conventional batch filtration of a mycelial fermentation broth

Options :

1. ✖ Blockage of the membrane pores by cell debris
2. ✔ The specific cake resistance remains constant
3. ✖ Compressible cake deposition on the membrane
4. ✖ Medium resistance remain constant

Question Number : 76 Question Id : 6364313676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A 25-year old man undertakes a prolonged fast for religious reasons. Which one of the following metabolites will be elevated in his blood plasma after 24 hours

Options :

1. ✖ Lactic acid

- 2. ✖ Glycogen
- 3. ✔ Ketone bodies
- 4. ✖ Non-esterified fatty acids

Question Number : 77 Question Id : 6364313677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What are the disadvantages of continuous culture

Options :

- 1. ✖ It can rarely be used for other productions
- 2. ✖ The growth rate is higher
- 3. ✔ If contamination occurs, huge volumes of the product may be lost
- 4. ✖ It is very useful for processes involving the production of primary metabolites

Question Number : 78 Question Id : 6364313678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Under continuous culture which of the following condition is applicable

Options :

1. ✗ $\mu_{\max} < D$
2. ✓ $\mu_{\max} > D$
3. ✗ $\mu_{\max} = D$
4. ✗ $\mu_{\max} = 0$

Question Number : 79 Question Id : 6364313679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What flower gene was used in rice to synthesize the production of beta carotene in 'golden rice'

Options :

1. ✗ Rose
2. ✗ Tulip
3. ✓ Daffodil
4. ✗ Sunflower

Question Number : 80 Question Id : 6364313680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is used to grow bacterial cultures continuously

Options :

1. ✗ Haemostat

2. ✓ Chemostat

3. ✗ Turbidostat

4. ✗ Thermostat

Question Number : 81 Question Id : 6364313681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Name the phase which is a period of adaptation of the cells to the new environment

Options :

1. ✓ Lag phase

2. ✗ Log phase

3. ✗ Exponential phase

4. ✖ Stationary phase

Question Number : 82 Question Id : 6364313682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is a sequence alignment tool

Options :

1. ✖ PROSITE

2. ✖ PRINT

3. ✔ BLAST

4. ✖ PIR

Question Number : 83 Question Id : 6364313683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following essential nutrient is being depleted at an alarming rate

Options :

1. ✖ Potassium

2. ✔ Phosphorus

3. ✖ Carbon

4. ✖ Nitrogen

Question Number : 84 Question Id : 6364313684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following vitamin helps in blood clotting

Options :

1. ✖ Ascorbic acid

2. ✔ Phytonadione

3. ✖ Tocopherol

4. ✖ Pantothenic Acid

Question Number : 85 Question Id : 6364313685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is used as a selection medium for mammalian cell culture
in hybridoma technology

Options :

1. ✖ DMSO

2. ✓ HAT

3. ✗ Skoog

4. ✗ Bovine serum

Question Number : 86 Question Id : 6364313686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The half-life period of P^{32} is 14.5 days, how long does it take to decay 20 gms of P^{32} to 5 gms

Options :

1. ✗ 40 Days

2. ✓ 29 Days

3. ✗ 30 Days

4. ✗ 27 Days

Question Number : 87 Question Id : 6364313687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The presence of Nucleic acids are determined using fluorescent probe _____

Options :

1. ✓ Ethidium bromide
2. ✗ Potassium permanganate
3. ✗ Rhodamine
4. ✗ Fluorescein

Question Number : 88 Question Id : 6364313688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What is the principle function of the class I and class II MHC molecules

Options :

1. ✗ They are mediators of T-independent B-cell responses
2. ✗ They bind peptide antigens for presentation to antigen-specific receptors on B cells
3. ✗ They bind carbohydrate antigens by phagocytic cells
4. ✓ They display peptide antigens for review by antigen-specific receptors on T cells

Question Number : 89 Question Id : 6364313689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Antigen-antibody complexes are phagocytosed more effectively in the presence of which complement component

Options :

1. ✗ C3a and C5a
2. ✓ C3b
3. ✗ C56789 complex
4. ✗ MBL

Question Number : 90 Question Id : 6364313690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

IgE-mediated histamine release is classified as what type of hypersensitivity reaction

Options :

1. ✓ Type 1
2. ✗ Type 2
3. ✗ Type 3

4. ✖ Type 4

Question Number : 91 Question Id : 6364313691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Natural passive immunity is due to

Options :

1. ✖ Administration of antiserum
2. ✔ Passage of Ig thorough placenta
3. ✖ Administration of purified Ig
4. ✖ Administration of vaccine

Question Number : 92 Question Id : 6364313692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

After solid organ transplantation, which of the following is responsible for acute graft rejection

Options :

1. ✖ C3a

2. ✖ C3b

3. ✖ C5a

4. ✔ C4d

Question Number : 93 Question Id : 6364313693 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In an experiment, black mice (BB) are crossed with white mice (bb). The progeny of F1 generation thus obtained will be

Options :

1. ✔ All black

2. ✖ All white

3. ✖ Black: white :: 3:1

4. ✖ White: black :: 1:1

Question Number : 94 Question Id : 6364313694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The substrate for restriction enzymes is

Options :

1. ✗ Single stranded RNA
2. ✗ Partially double stranded RNA
3. ✗ Cell wall proteins
4. ✓ Double stranded DNA

Question Number : 95 Question Id : 6364313695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The mechanism of sex determination type operating in butterflies and moth

Options :

1. ✗ ZW-ZZ
2. ✓ ZO-ZZ
3. ✗ XX-XO
4. ✗ XX-XY

Question Number : 96 Question Id : 6364313696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A plant genetic engineer wishes to transfer and express a gene from sunflower into beans. Which of the following would be the vector of choice

Options :

1. ✗ Lambda phage
2. ✗ pBR plasmid
3. ✓ Ti plasmid
4. ✗ Maize streak virus

Question Number : 97 Question Id : 6364313697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

DNA fingerprinting is based on

Options :

1. ✓ Occurrence of VNTR's
2. ✗ Knowledge of human karyotype
3. ✗ Cloned DNA
4. ✗ Recombinant DNA

Question Number : 98 Question Id : 6364313698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which one of the following statements about genomic libraries are false

Options :

1. ✗ Genomic libraries must be representative if they are to contain all the genes in an organism
2. ✓ Genomic libraries are made from cDNA
3. ✗ Genomic libraries must contain a minimum number of recombinants if they are to contain all the genes in an organism
4. ✗ The DNA must be fragmented to an appropriate size for the vector that is used

Question Number : 99 Question Id : 6364313699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following genetic diseases would be amenable to genetic engineering

Options :

1. ✗ Down's syndrome
2. ✗ Muscular dystrophy

3. ✖ Cri du Chat

4. ✔ Cystic fibrosis

Question Number : 100 Question Id : 6364313700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

All are major bioinformatics resources except

Options :

1. ✖ NCBI

2. ✖ EBI

3. ✖ ExPasy

4. ✔ Pubmed

Question Number : 101 Question Id : 6364313701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The processivity factor of DNA polymerase III is

Options :

1. ✖ Gamma Complex

- 2. ✓ Beta Clamp
- 3. ✗ DnaA protein
- 4. ✗ DnaG protein

Question Number : 102 Question Id : 6364313702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Comment line '>' denotes

Options :

- 1. ✗ Origin of sequence in nucleotide flat line
- 2. ✗ Origin of gene sequence in EMBL nucleotide sequence
- 3. ✗ End of protein sequence in gene pept
- 4. ✓ Origin of nucleotide sequence in FASTA format

Question Number : 103 Question Id : 6364313703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Uniport stands for

Options :

- 1. ✗ Universal polypeptide Database

2. ✓ Universal protein Database

3. ✗ Uniform protein Database

4. ✗ Unique protein Database

Question Number : 104 Question Id : 6364313704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Hybridoma is the

Options :

1. ✗ Fusion of plant and animal cell

2. ✓ Fusion of cancer cell and B cells

3. ✗ Fusion of plant cell and microorganism

4. ✗ Fusion of animal cell and microorganism

Question Number : 105 Question Id : 6364313705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The green colour in RasMol indicates

Options :

1. ✘ Hydrogen
2. ✘ Sulphur
3. ✔ Hydrogen bond
4. ✘ Disulphide bond

Question Number : 106 Question Id : 6364313706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Commercial software for both protein and nucleotide mutation is

Options :

1. ✘ DALI
2. ✘ VAX
3. ✔ PyMoL
4. ✘ Biopolymer

Question Number : 107 Question Id : 6364313707 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Threading is a method of

Options :

1. ✓ Xray crystallography
2. ✗ Protein modelling
3. ✗ Circular dichroism
4. ✗ Ab initio protein modeling

Question Number : 108 Question Id : 6364313708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In homology modelling the most suitable BLAST is

Options :

1. ✓ PSI-BLAST
2. ✗ RP-BLAST
3. ✗ GEO-BLAST
4. ✗ PHI-BLAST

Question Number : 109 Question Id : 6364313709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The first protein to be sequenced

Options :

1. ✘ Hemoglobin
2. ✘ Myosin
3. ✘ Tannin
4. ✔ Insulin

Question Number : 110 Question Id : 6364313710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Cry genes or Bt genes are obtained from

Options :

1. ✘ Cotton pest
2. ✘ Tobacco plant
3. ✔ Bacillus thuringiensis
4. ✘ E.Coli

Question Number : 111 Question Id : 6364313711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In gel electrophoresis, DNA molecules migrate from _____ ends of the gel

Options :

1. ✓ Negative to positive
2. ✗ Basic to acidic
3. ✗ Long to short
4. ✗ Positive to negative

Question Number : 112 Question Id : 6364313712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What is a characteristic of the adaptive immune response and not of the innate response

Options :

1. ✗ Physical barriers
2. ✗ Chemical barriers
3. ✗ Phagocytosis

4. ✓ Clonal expansion of effector cells

Question Number : 113 Question Id : 6364313713 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following DNA modifications results in silencing of a gene

Options :

1. ✗ Acetylation
2. ✗ Ethylation
3. ✓ Methylation
4. ✗ Ubiquitination

Question Number : 114 Question Id : 6364313714 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In the S-phase, activation of pre-replicative complex is done by

Options :

1. ✗ Cdt1
2. ✗ CDC6

3. ✓ Cdc7-db4

4. ✗ ORCI

Question Number : 115 Question Id : 6364313715 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In which type of ELISA is the antibody initially incubated in solution with a sample containing antigen prior to coating

Options :

1. ✗ Indirect ELISA

2. ✗ Sandwich ELISA

3. ✓ Competitive ELISA

4. ✗ Non competitive ELISA

Question Number : 116 Question Id : 6364313716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following disorders are caused due to recessive autosomal mutations

Options :

1. ✗ Turner's syndrome and sickle cell anaemia

2. ✓ Edward's syndrome and Down's syndrome
3. ✗ Cystic fibrosis and phenylketonuria
4. ✗ Alzheimer's disease and Huntington's chorea

Question Number : 117 Question Id : 6364313717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Unwinding of circular DNA produce

Options :

1. ✗ Positive Supercoiling
2. ✓ Negative Supercoiling
3. ✗ Both positive and negative supercoiling
4. ✗ Relaxed open circular DNA

Question Number : 118 Question Id : 6364313718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Curdling of milk in small intestine occurs due to the action of

Options :

1. ✓ Rennin
2. ✗ Erypsine
3. ✗ Trypsin
4. ✗ Chymotrypsin

Question Number : 119 Question Id : 6364313719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If the substrate concentration is much below the K_m of the enzyme, the velocity of the reaction is

Options :

1. ✓ Directly proportional to the substrate concentration
2. ✗ Not affected by enzyme concentration
3. ✗ Nearly equal to V_{max}
4. ✗ Inversely proportional to substrate concentration

Question Number : 120 Question Id : 6364313720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

pBR322 which is frequently used as a vector for cloning a gene in E.coli is

Options :

1. ✗ An original bacterial plasmid
2. ✓ A modified bacterial plasmid
3. ✗ A viral genome
4. ✗ A transposon

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