

National Testing Agency

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Subject Name :	Plant Biochemistry
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Display Marks:	Yes
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes

Plant Biochemistry

Group Number :	1
Group Id :	71087010
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	480
Is this Group for Examiner? :	No

Part A General Knowledge

Section Id :	71087028
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	20

Number of Questions to be attempted :	20
Section Marks :	80
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	71087028
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 7108701141 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following crops is a commercial crop in Punjab and Haryana but is a subsistence crop in Orissa?

1. Tea
2. Cotton
3. Rubber
4. Rice

Options :

- 7108704561. 1
- 7108704562. 2
- 7108704563. 3
- 7108704564. 4

Question Number : 2 Question Id : 7108701142 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which of the following are the two most important wheat-growing zones of the country?

- A. Ganga-Satluj plains in the north-west
- B. Deltaic regions
- C. Black soil region of the Deccan
- D. Plains of north-east

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

- 1. Only A and B
- 2. Only B and C
- 3. Only C and D
- 4. Only A and C

Options :

- 7108704565. 1
- 7108704566. 2
- 7108704567. 3
- 7108704568. 4

Question Number : 3 Question Id : 7108701143 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Indian agriculture is typically characterized as

- 1. Land surplus, labour scarce economy
- 2. Land surplus, labour surplus economy
- 3. Land scarce, labour surplus economy
- 4. Land scarce, labour scarce economy

Options :

- 7108704569. 1

7108704570. 2

7108704571. 3

7108704572. 4

Question Number : 4 Question Id : 7108701144 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following countries is the main rival of India in tea export?

1. China
2. Japan
3. Germany
4. Sri Lanka

Options :

7108704573. 1

7108704574. 2

7108704575. 3

7108704576. 4

Question Number : 5 Question Id : 7108701145 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement A: MSP is declared by the government every year to provide incentives to the farmers for raising the production of crops.

Statement B: Buffer stock is created to distribute food grains in the deficit areas and among the poorer strata of the society at the lower price than the market price.

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

1. Both Statement A and Statement B are correct
2. Both Statement A and Statement B are incorrect
3. Statement A is correct but Statement B is incorrect
4. Statement A is incorrect but Statement B is correct

Options :

- 7108704577. 1
- 7108704578. 2
- 7108704579. 3
- 7108704580. 4

Question Number : 6 Question Id : 7108701146 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following is a global association of nations of the world to help cooperation in international law, security, economic development and social equity?

1. United Nations Organization
2. International Monetary Fund
3. World Bank
4. World Health Organization

Options :

- 7108704581. 1
- 7108704582. 2
- 7108704583. 3
- 7108704584. 4

Question Number : 7 Question Id : 7108701147 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Under the Ganga Action Plan Phase II, pollution abatement works are being taken up in how many towns?

- 1. 57
- 2. 65
- 3. 52
- 4. 69

Options :

- 7108704585. 1
- 7108704586. 2
- 7108704587. 3
- 7108704588. 4

Question Number : 8 Question Id : 7108701148 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following statements is **incorrect**?

- 1. The highest number of pigs in the world are found in India
- 2. Utter Pradesh provides largest amount of pork
- 3. Assam has the largest number of pork producing pigs
- 4. Pork constitutes about 7.6% of the total meat produced in India

Options :

7108704589. 1
7108704590. 2
7108704591. 3
7108704592. 4

Question Number : 9 Question Id : 7108701149 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which type of N-fertilizer is suitable for water-logged soils?

1. Zinc Phosphate
2. Ammonium Sulphate
3. Calcium
4. Potassium Nitrate

Options :

7108704593. 1
7108704594. 2
7108704595. 3
7108704596. 4

Question Number : 10 Question Id : 7108701150 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The famous Bailadila range of hills in the Bastar district of Chhattisgarh is famous for its

1. Bauxite deposits
2. Manganese deposits
3. Copper deposits
4. High-grade haematite deposits

Options :

7108704597. 1

7108704598. 2

7108704599. 3

7108704600. 4

Question Number : 11 Question Id : 7108701151 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

A farmer wishes to start a 100 sq. m rectangular vegetable garden. Since he has only 30m barbed wire, he fences three sides of the garden letting his house compound wall act as the fourth side fencing. What is the dimension of the garden?

1. 15 m x 6.67m
2. 20 m x 5 m
3. 30 m x 3.33 m
4. 40 m x 2.5 m

Options :

7108704601. 1

7108704602. 2

7108704603. 3

7108704604. 4

Question Number : 12 Question Id : 7108701152 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

In which one of the following industries, the consumption of natural rubber is the largest?

1. Auto tyres and tubes
2. Footwear
3. Dipped goods
4. Latex foam

Options :

7108704605. 1
7108704606. 2
7108704607. 3
7108704608. 4

Question Number : 13 Question Id : 7108701153 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following countries was the partner country of 34th Surajkund International Crafts Fair held in Haryana?

1. China
2. Nepal
3. Bhutan
4. Uzbekistan

Options :

7108704609. 1
7108704610. 2
7108704611. 3
7108704612. 4

Question Number : 14 Question Id : 7108701154 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Nobel laureate Abhijit Vinayak Banerjee was conferred the honorary Doctor of Letters (D. Litt.) by which University?

1. University of Delhi
2. University of Kolkata
3. University of Mumbai
4. University of Hyderabad

Options :

- 7108704613. 1
- 7108704614. 2
- 7108704615. 3
- 7108704616. 4

Question Number : 15 Question Id : 7108701155 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Where is the headquarters of European Union?

- 1. Geneva, Switzerland
- 2. Washington D.C., USA
- 3. New York, US
- 4. Brussels, Belgium

Options :

- 7108704617. 1
- 7108704618. 2
- 7108704619. 3
- 7108704620. 4

Question Number : 16 Question Id : 7108701156 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which of the following would be deficient if one finds high somatic cell count in the cow's milk?

- 1. Butterfat
- 2. Whey protein
- 3. Casein
- 4. Trace minerals

Options :

- 7108704621. 1
- 7108704622. 2
- 7108704623. 3
- 7108704624. 4

Question Number : 17 Question Id : 7108701157 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Who was the first administrator-statesman to attempt planning as a means for economic development?

- 1. C. Rajagopalachari
- 2. V. T. Krishnamachari
- 3. M. Viswesvarayya
- 4. Sir C. P. Ramaswami Aiyar

Options :

- 7108704625. 1
- 7108704626. 2
- 7108704627. 3
- 7108704628. 4

Question Number : 18 Question Id : 7108701158 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Amazon rainforest span over nine countries. In August 2019, in which country did a deadly fire broke out in the Amazon forest?

- 1. Brazil
- 2. Venezuela
- 3. Colombia
- 4. Argentina

Options :

- 7108704629. 1
- 7108704630. 2
- 7108704631. 3
- 7108704632. 4

Question Number : 19 Question Id : 7108701159 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Economic liberalization in India started with

- 1. Sustainable changes in industrial licensing policy
- 2. The convertibility of the Indian Rupee
- 3. Significant reduction of tax rates
- 4. Changes in procedural formalities for FDI

Options :

- 7108704633. 1
- 7108704634. 2
- 7108704635. 3
- 7108704636. 4

Question Number : 20 Question Id : 7108701160 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The term 'Delimitation' which was in news recently is associated with which process?

- 1. Fixing the limit of Income tax
- 2. Fixing limits of Affordable housing
- 3. Fixing limits of Territorial constituencies
- 4. Fixing limits of Chairpersons salary

Options :

- 7108704637. 1

7108704638. 2
7108704639. 3
7108704640. 4

Part B Core Crop Sciences-III

Section Id :	71087029
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	71087029
Question Shuffling Allowed :	Yes

Question Number : 21 Question Id : 7108701161 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The translation process occurs in association with which one of the following?

1. Plastids
2. ER
3. Mitochondria
4. Ribosome and RNA

Options :

7108704641. 1
7108704642. 2

7108704643. 3

7108704644. 4

Question Number : 22 Question Id : 7108701162 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

E. R. Sears produced 21 monosomics in which one of the following wheat varieties?

1. Einkorn
2. Chinese spring
3. Khorasan
4. Red spring

Options :

7108704645. 1

7108704646. 2

7108704647. 3

7108704648. 4

Question Number : 23 Question Id : 7108701163 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Name the small cDNA sequence that represents a unique segment of an active gene

1. SNPs
2. snRNAs
3. ESTs
4. Contigs

Options :

7108704649. 1

7108704650. 2

7108704651. 3

7108704652. 4

Question Number : 24 Question Id : 7108701164 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following species of *Cajanus* is used to introgress salt tolerance in the cultivated species of *Cajanus*?

1. *Cajanus scaraboides*
2. *Cajanus lanceolatus*
3. *Cajanus platicarpus*
4. *Cajanus albicans*

Options :

- 7108704653. 1
- 7108704654. 2
- 7108704655. 3
- 7108704656. 4

Question Number : 25 Question Id : 7108701165 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Under IPR, what protects the intellectual property created by inventors ?

1. Copy right
2. Patents
3. Trade marks
4. Registered design

Options :

- 7108704657. 1
- 7108704658. 2
- 7108704659. 3
- 7108704660. 4

Question Number : 26 Question Id : 7108701166 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The world's most inventory of the global conservation status of biological species is being maintained by

1. WWF
2. IUCN
3. MAB
4. IBWL

Options :

- 7108704661. 1
- 7108704662. 2
- 7108704663. 3
- 7108704664. 4

Question Number : 27 Question Id : 7108701167 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

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

List I	List II
A: Pod corn	I: <i>Zea mays</i> var. <i>everta</i>
B: Pop corn	II: <i>Zea mays</i> var. <i>ceratina</i>
C: Wax corn	III: <i>Zea mays</i> var. <i>tunicata</i>
D: Flint corn	IV: <i>Zea mays</i> var. <i>indurata</i>

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

1. A : IV, B : III, C : II, D : I
2. A : III, B : II, C : I, D : IV
3. A : III, B : I, C : II, D : IV
4. A : I, B : II, C : III, D : IV

Options :

- 7108704665. 1
- 7108704666. 2
- 7108704667. 3
- 7108704668. 4

Question Number : 28 Question Id : 7108701168 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

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

List I	List II
(Species)	(Chromosome number)
A: <i>Linum usitatissimum</i>	I: n = 18
B: <i>Cicer arietinum</i>	II: n = 7
C: <i>Brassica nigra</i>	III: n = 8
D: <i>Lens esculenta</i>	IV: n = 15

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

1. A : I, B : II, C : III, D : IV
2. A : II, B : III, C : I, D : IV
3. A : IV, B : III, C : I, D : II
4. A : III, B : I, C : IV, D : II

Options :

7108704669. 1
7108704670. 2
7108704671. 3
7108704672. 4

Question Number : 29 Question Id : 7108701169 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

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

List I	List II
(Crop)	(Isolation distance for certified seed production)
A: Hybrid rice	I: 400 m
B: Johnson Grass	II: 800 m
C: Sesame	III: 100 m
D: Carrot	IV: 50 m

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

1. A : III, B : I, C : IV, D : II
2. A : III, B : I, C : II, D : IV
3. A : IV, B : II, C : III, D : I
4. A : I, B : II, C : III, D : IV

Options :

- 7108704673. 1
- 7108704674. 2
- 7108704675. 3
- 7108704676. 4

Question Number : 30 Question Id : 7108701170 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Adventive embryony is an example of

1. Vegetative propagation
2. Amphimixis
3. Agamospermy
4. Parthinogamy

Options :

- 7108704677. 1
- 7108704678. 2
- 7108704679. 3
- 7108704680. 4

Question Number : 31 Question Id : 7108701171 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Loss in vigour due to inbreeding is more visible in

1. Self-pollinated species
2. Cross-pollinated species
3. Apomictic species
4. Monoecious species.

Options :

- 7108704681. 1
- 7108704682. 2
- 7108704683. 3
- 7108704684. 4

Question Number : 32 Question Id : 7108701172 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If two individuals with a genotype AaBb are crossed, what proportion of the offsprings will be of genotype aabb?

1. $\frac{1}{2}$
2. $\frac{1}{4}$
3. $\frac{1}{8}$
4. $\frac{1}{16}$

Options :

7108704685. 1
7108704686. 2
7108704687. 3
7108704688. 4

Question Number : 33 Question Id : 7108701173 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Requirements for Marker Assisted Backcross Breeding are

- A. High heritability
- B. Tightly linked marker with target gene
- C. Flanking markers
- D. Multi-location trial

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

1. A, D and E only
2. B, C and D only
3. B, D and E only
4. A, B and C only

Options :

7108704689. 1

7108704690. 2

7108704691. 3

7108704692. 4

Question Number : 34 Question Id : 7108701174 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Chi-square test has the following applications

A. Test of segregation

B. Selection of genotype

C. Detection of genotype

D. Developing ANOVA table

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

1. B, D and E only

2. A, C and E only

3. B, C and D only

4. A, C and D only

Options :

7108704693. 1

7108704694. 2

7108704695. 3

7108704696. 4

Question Number : 35 Question Id : 7108701175 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Requirements for AFLP marker are

- A. Random primers
- B. Restriction enzymes
- C. Adaptors
- D. PCR
- E. Short sequence repeats

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

- 1. B, C and D only
- 2. A, B and E only
- 3. B, D and E only
- 4. A, B and C only

Options :

- 7108704697. 1
- 7108704698. 2
- 7108704699. 3
- 7108704700. 4

Question Number : 36 Question Id : 7108701176 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

For breeding high-quality chapati wheat in India we prefer

- A. Soft wheat
- B. Hard wheat
- C. *Triticum aestivum*
- D. *Triticum durum*
- E. *Triticum dicoccum*

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

- 1. A and C only
- 2. B and D only
- 3. B and C only
- 4. A and E only

Options :

- 7108704701. 1
- 7108704702. 2
- 7108704703. 3
- 7108704704. 4

Question Number : 37 Question Id : 7108701177 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Evidence for DNA as genetic material was obtained in which of the following experiments?

- A. Avery, McLeod and McCarty experiment
- B. Griffith Experiment
- C. Conrat and Singer experiment
- D. Watson and Crick experiment
- E. Hershey and Chase experiment

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

- 1. A and B only
- 2. A and E only
- 3. B and D only
- 4. C and D only

Options :

- 7108704705. 1
- 7108704706. 2
- 7108704707. 3
- 7108704708. 4

Question Number : 38 Question Id : 7108701178 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

A population consisted of the following genotypes in the given numbers

160-Heterozygotes

20-Homozygous recessive

320-Homozygous dominants

What would be the frequency of dominant allele?

1. 10%
2. 40%
3. 32%
4. 80%

Options :

7108704709. 1

7108704710. 2

7108704711. 3

7108704712. 4

Question Number : 39 Question Id : 7108701179 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The non-random association of alleles at different loci in a given population is referred to as

1. Linkage disequilibrium
2. Linkage equilibrium
3. Mendelian population
4. QTL analysis

Options :

7108704713. 1

7108704714. 2

7108704715. 3

7108704716. 4

Question Number : 40 Question Id : 7108701180 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Non-Mendelian inheritance includes

1. Maternal effect only
2. Maternal effect and epigenetic inheritance only
3. Epigenetic and extranuclear inheritance only
4. Maternal effect, Epigenetic and extranuclear inheritance only

Options :

- 7108704717. 1
- 7108704718. 2
- 7108704719. 3
- 7108704720. 4

Question Number : 41 Question Id : 7108701181 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Morgan discovered linkage when studying two genes in which of the following in Drosophila?

1. X-chromosome
2. Y-chromosome
3. Autosomes
4. Cytoplasm

Options :

- 7108704721. 1
- 7108704722. 2
- 7108704723. 3
- 7108704724. 4

Question Number : 42 Question Id : 7108701182 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Kary Banks Mullis invented PCR and received Nobel Prize in

1. Physics
2. Chemistry
3. Biology
4. Medicine

Options :

- 7108704725. 1
- 7108704726. 2
- 7108704727. 3
- 7108704728. 4

Question Number : 43 Question Id : 7108701183 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Antibiotic resistance genes are mostly used as what kind of markers?

1. Selectable
2. Scorable
3. Countable
4. Molecular

Options :

- 7108704729. 1
- 7108704730. 2
- 7108704731. 3
- 7108704732. 4

Question Number : 44 Question Id : 7108701184 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Expanded form of RAPD is

1. Randomly Amplified Polymorphic DNA
2. Random Amplification of Polymorphic DNA
3. Randomly Amplification of Polymorphic DNA
4. Random Amplified Polymorphic DNA

Options :

- 7108704733. 1
- 7108704734. 2
- 7108704735. 3
- 7108704736. 4

Question Number : 45 Question Id : 7108701185 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Hybrid between plasmid and phage lambda chromosome are known as

1. Plasmid vector
2. Cosmid vector
3. Fosmid vector
4. Binary vector

Options :

- 7108704737. 1
- 7108704738. 2
- 7108704739. 3
- 7108704740. 4

Question Number : 46 Question Id : 7108701186 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

DUS testing is necessary for

- A. Certification of a variety
- B. Release and notification of a variety
- C. Protection of a variety

Select the **most appropriate** answer from the options given below:

- 1. A only
- 2. B only
- 3. C only
- 4. A, B and C

Options :

- 7108704741. 1
- 7108704742. 2
- 7108704743. 3
- 7108704744. 4

Question Number : 47 Question Id : 7108701187 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

CSTL is located at

- 1. New Delhi
- 2. Lucknow
- 3. Patna
- 4. Varanasi

Options :

- 7108704745. 1
- 7108704746. 2
- 7108704747. 3

7108704748. 4

Question Number : 48 Question Id : 7108701188 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Two line system of hybrid seed production is possible in

1. CMS
2. GMS
3. TGMS
4. CGMS

Options :

7108704749. 1
7108704750. 2
7108704751. 3
7108704752. 4

Question Number : 49 Question Id : 7108701189 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Seed multiplication ratio of paddy is

1. 1:60
2. 1:80
3. 1:40
4. 1:100

Options :

7108704753. 1
7108704754. 2
7108704755. 3
7108704756. 4

Question Number : 50 Question Id : 7108701190 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which of the following are certified classes of seeds under the Seeds Act?

- A. Breeder Seed
- B. Foundation Seed
- C. Certified Seed
- D. Nucleus Seed
- E. Quality declared seed

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

- 1. A and D only
- 2. B and C only
- 3. D and E only
- 4. E and C only

Options :

- 7108704757. 1
- 7108704758. 2
- 7108704759. 3
- 7108704760. 4

Question Number : 51 Question Id : 7108701191 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Cross pollinated crop

- A. Sunflower
- B. Cabbage
- C. Chow-Chow
- D. Groundnut
- E. Moth Bean

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

1. A, B, C only
2. B, C, D only
3. E, A, B only
4. D, E, A only

Options :

- 7108704761. 1
- 7108704762. 2
- 7108704763. 3
- 7108704764. 4

Question Number : 52 Question Id : 7108701192 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Grow-out test for seed certification is compulsory in hybrids of

- A. Tomato
- B. Brinjal
- C. Castor
- D. Maize
- E. Pearl millet

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

1. A, B and C only
2. D, E and A only
3. D, A and C only
4. A, B, C, D and E only

Options :

- 7108704765. 1
- 7108704766. 2
- 7108704767. 3
- 7108704768. 4

Question Number : 53 Question Id : 7108701193 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Provision of 'Seed Register' is provided in

1. Seed Bill
2. PPV & FR Act
3. Seed Control Order
4. Seeds Act

Options :

- 7108704769. 1
- 7108704770. 2
- 7108704771. 3

7108704772. 4

Question Number : 54 Question Id : 7108701194 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following rules are followed by ISTA for determining seed viability of a seed lot?

1. Four replications of 100 seeds each
2. Three replications of 50 seeds each
3. Four replications of 50 seeds each
4. Three replications of 100 seeds each

Options :

7108704773. 1

7108704774. 2

7108704775. 3

7108704776. 4

Question Number : 55 Question Id : 7108701195 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

To break the dormancy and to enhance germination in orthodox seeds, the chemical stimuli used is

1. Sulphuric acid
2. Potassium nitrate
3. TTC
4. Formazane

Options :

7108704777. 1

7108704778. 2

7108704779. 3

7108704780. 4

Question Number : 56 Question Id : 7108701196 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The Germination Value (GV) of tree seeds is calculated using the formula

1. $GV = PV \times MDG$
2. $GV = T \times PV$
3. $GV = PV \times B$
4. $GV = MDG \times T$

Options :

- 7108704781. 1
- 7108704782. 2
- 7108704783. 3
- 7108704784. 4

Question Number : 57 Question Id : 7108701197 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Loose smut is the seed borne disease in

1. Paddy
2. Wheat
3. Maize
4. Sorghum

Options :

- 7108704785. 1
- 7108704786. 2
- 7108704787. 3
- 7108704788. 4

Question Number : 58 Question Id : 7108701198 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Leaf spot is the seed borne disease in

1. Sesame
2. Groundnut
3. Castor
4. Linseed

Options :

- 7108704789. 1
- 7108704790. 2
- 7108704791. 3
- 7108704792. 4

Question Number : 59 Question Id : 7108701199 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement I: Under the PPV&FR Act, a variety with Bt-gene can be registered

Statement II: Under the PPV&FR Act, a variety with RIP-gene (Ribosomal Inhibitory Protein) can be registered

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

- 7108704793. 1

7108704794. 2

7108704795. 3

7108704796. 4

Question Number : 60 Question Id : 7108701200 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

According to India's Patent Law, a patent has a time limit of

1. 15 years
2. 20 years
3. 7 years
4. 9 years

Options :

7108704797. 1

7108704798. 2

7108704799. 3

7108704800. 4

Question Number : 61 Question Id : 7108701201 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Name the global initiative which is aimed at to establish a multilateral system of access and benefit sharing of Plant Genetic Resources through SMTA

1. Bioversity International
2. Commission on Genetic Resources for Food and Agriculture
3. Global Plan of Action
4. International Treaty for PGRFA

Options :

7108704801. 1

7108704802. 2

7108704803. 3

7108704804. 4

Question Number : 62 Question Id : 7108701202 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The most successful technique to conserve pollen grains of plant species is

1. Organic solvent method
2. Desiccation freeze drying
3. Cryopreservation
4. Low temperature storage (-20⁰ C)

Options :

7108704805. 1

7108704806. 2

7108704807. 3

7108704808. 4

Question Number : 63 Question Id : 7108701203 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

While breeding for abiotic resistance in legumes, drought tolerance and heat tolerance traits can be obtained from which one of the following *Vigna species*?

1. *Vigna radiate*
2. *Vigna aconitifolia*
3. *Vigna riukuensis*
4. *Vigna tenucauli*

Options :

7108704809. 1

7108704810. 2

7108704811. 3

7108704812. 4

Question Number : 64 Question Id : 7108701204 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following crops is a rich source of calcium, iron and niacin?

1. Finger millet
2. Chickpea
3. Lima bean
4. Redgram

Options :

7108704813. 1
7108704814. 2
7108704815. 3
7108704816. 4

Question Number : 65 Question Id : 7108701205 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Among the edible legume plants, which one of the following legumes possesses glandular hairs and secretes oxalic and malic acids?

1. *Vicia faba*
2. *Cajanus cajan*
3. *Vigna mungo*
4. *Cicer arietinum*

Options :

7108704817. 1
7108704818. 2
7108704819. 3
7108704820. 4

Question Number : 66 Question Id : 7108701206 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which part of *Elaeis guineensis* fruit contains the maximum amount of oil?

1. Mesocarp
2. Endocarp
3. Endosperm
4. Exocarp

Options :

7108704821. 1

7108704822. 2

7108704823. 3

7108704824. 4

Question Number : 67 Question Id : 7108701207 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Under the **ITPGRFA**, the specified number of food and fodder crops which can be exchanged when executing **SMTA** is

1. 95 food crops and 35 fodder crops
2. 24 food crops and 15 fodder crops
3. 132 food crops and 29 fodder crops
4. 35 food crops and 29 fodder crops

Options :

7108704825. 1

7108704826. 2

7108704827. 3

7108704828. 4

Question Number : 68 Question Id : 7108701208 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Among the following types of rice, which form of rice possesses more of dextrin in its endosperm?

1. Wild rice
2. Glutinous rice
3. Parboiled rice
4. Hand pound rice

Options :

- 7108704829. 1
- 7108704830. 2
- 7108704831. 3
- 7108704832. 4

Question Number : 69 Question Id : 7108701209 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Name the tool which is used to assess the plant genetic diversity which reduces the large set of variables into a smaller set of 'artificial / uncorrelated' variables.

1. Cluster analysis
2. PCA
3. Mahalanobis D^2 analysis
4. Cladogram

Options :

- 7108704833. 1
- 7108704834. 2
- 7108704835. 3
- 7108704836. 4

Question Number : 70 Question Id : 7108701210 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In which of the following crops species, allogamy is effected by the process called 'tripping'?

1. *Medicago sativa*
2. *Clitoria ternatea*
3. *Desmanthus tortuosum*
4. *Macroptelium atropurpureum*

Options :

7108704837. 1

7108704838. 2

7108704839. 3

7108704840. 4

Part C Plant Biochemistry

Section Id :	71087030
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	71087030
Question Shuffling Allowed :	Yes

Question Number : 71 Question Id : 7108701211 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The electrophoretic mobility of a charged particle is

1. Inversely proportional to the electric field
2. Directly proportional to frictional coefficient
3. Directly proportional to shape
4. Directly proportional to charge density

Options :

- 7108704841. 1
- 7108704842. 2
- 7108704843. 3
- 7108704844. 4

Question Number : 72 Question Id : 7108701212 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Allosteric enzymes are mainly regulated by

1. Non-covalent binding of the modulator
2. Binding of the modulator through disulfide linkages
3. Binding of the modulator through glycosidic linkages
4. Binding of the modulator through peptide linkages

Options :

- 7108704845. 1
- 7108704846. 2
- 7108704847. 3
- 7108704848. 4

Question Number : 73 Question Id : 7108701213 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is

**Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 1**

Agarose is a linear polymer of a disaccharide unit made up of

1. D-Galactose and 3,6-anhydro-L-Galactose
2. D-Galactose and D-Glucose
3. D-Fructose and D-Galactose
4. 3,6-anhydro-L-Lactose and D-Glucose

Options :

7108704849. 1
7108704850. 2
7108704851. 3
7108704852. 4

**Question Number : 74 Question Id : 7108701214 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 1**

Which one of the following enzymatic conversions takes place in the visual cycle during illumination?

1. 11-*trans*-retinal to 11-*cis*-retinal
2. 11-*cis*-retinal to 11-*trans*-retinal
3. 12-*cis*-retinal to retinol
4. 12-*trans*-retinal to retinol

Options :

7108704853. 1
7108704854. 2
7108704855. 3
7108704856. 4

Question Number : 75 Question Id : 7108701215 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

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

List I	List II
Element	Half-life Period
A. ^{45}Ca	I. 14.2 days
B. ^{131}I	II. 14.97 hours
C. ^{32}P	III. 8.0 days
D. ^{24}Na	IV. 164 days

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

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

Options :

7108704857. 1

7108704858. 2

7108704859. 3

7108704860. 4

Question Number : 76 Question Id : 7108701216 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Diet predominant in corn but poor in meat and milk leads to "Rough Skin". This symptom is caused due to the deficiency of

1. Riboflavin
2. Folic Acid
3. Vitamin B1
4. Nicotinic Acid

Options :

- 7108704861. 1
- 7108704862. 2
- 7108704863. 3
- 7108704864. 4

Question Number : 77 Question Id : 7108701217 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The fat-soluble vitamins are derivatives of

1. 2-Methylbutadiene
2. 4-Methylbutadiene
3. 2-Methyl-1,4-pentadiene
4. 3-Methyl-1,4-pentadiene

Options :

- 7108704865. 1
- 7108704866. 2
- 7108704867. 3
- 7108704868. 4

Question Number : 78 Question Id : 7108701218 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

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

List I	List II
A. DNA Polymerase	I. Mn^{2+}
B. Glucose-6-Phosphatase	II. Se
C. Arginase	III. Mg^{2+}
D. Glutathione Peroxidase	IV. Zn^{2+}

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

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

Options :

7108704869. 1
7108704870. 2
7108704871. 3
7108704872. 4

Question Number : 79 Question Id : 7108701219 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Diisopropyl fluorophosphate (DFP) inhibits enzyme acetylcholinesterase. This is an example of

1. Reversible inhibition
2. Irreversible inhibition
3. Competitive inhibition
4. Non-competitive inhibition

Options :

7108704873. 1
7108704874. 2

7108704875. 3

7108704876. 4

Question Number : 80 Question Id : 7108701220 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Colorimeters are simple instrument designed to work in the

A. Visible range

B. UV range

Select the **most appropriate** answer from the options given below:

1. A only

2. B only

3. Both A and B

4. Neither A nor B

Options :

7108704877. 1

7108704878. 2

7108704879. 3

7108704880. 4

Question Number : 81 Question Id : 7108701221 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is/are Allosteric enzyme(s)?

- A. Glutamine Synthetase
- B. Glycogen Phosphorylase
- C. Aspartate transcarbamoylase

Select appropriate answer from the following options:

- 1. A only
- 2. C only
- 3. B and C only
- 4. A, B and C

Options :

- 7108704881. 1
- 7108704882. 2
- 7108704883. 3
- 7108704884. 4

Question Number : 82 Question Id : 7108701222 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Rate zonal centrifugation

- 1. is time independent
- 2. is time-dependent
- 3. is an equilibrium method
- 4. leads to discrete bands formed at different zones

Options :

- 7108704885. 1
- 7108704886. 2
- 7108704887. 3

7108704888. 4

Question Number : 83 Question Id : 7108701223 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Lactose is

1. An oxidizing monosaccharide
2. An oxidizing disaccharide
3. A reducing monosaccharide
4. A reducing disaccharide

Options :

- 7108704889. 1
- 7108704890. 2
- 7108704891. 3
- 7108704892. 4

Question Number : 84 Question Id : 7108701224 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following could be the most probable reason for the poor resolution of protein bands on an SDS-PAGE gel?

1. The pH of resolving buffer has not been maintained to 8.8
2. Uniform current has not been provided
3. Low protein concentration
4. Degraded protein sample

Options :

- 7108704893. 1
- 7108704894. 2
- 7108704895. 3

7108704896. 4

Question Number : 85 Question Id : 7108701225 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

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

List I	List II
A. Vitamin D	I. Acyl group transfer
B. Biotin	II. Decarboxylation of α -keto acids
C. Thiamine	III. Regulation of Calcium metabolism
D. Pantothenic acid	IV. CO_2 transfer

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

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

Options :

7108704897. 1
7108704898. 2
7108704899. 3
7108704900. 4

Question Number : 86 Question Id : 7108701226 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which of the following amino acids are abundantly present in anti-freeze proteins?

1. Threonine and Alanine
2. Glycine and Methionine
3. Proline and Hydroxyproline
4. Serine and Cysteine

Options :

- 7108704901. 1
- 7108704902. 2
- 7108704903. 3
- 7108704904. 4

Question Number : 87 Question Id : 7108701227 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

ICP-OES stands for

1. Intra-Coupled Plasma – Overall Emission Spectroscopy
2. Inductively Coupled Plasma – Optical Emission Spectroscopy
3. Inductively Constitutive Performance – Optical Enhanced Spectra
4. Inter-Coupled Plasma -Overall Emission Spectroscopy

Options :

- 7108704905. 1
- 7108704906. 2
- 7108704907. 3
- 7108704908. 4

Question Number : 88 Question Id : 7108701228 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following are the phosphorous containing sphingolipids?

1. Cerebrosides
2. Gangliosides
3. Sphingomyelins
4. None of these

Options :

- 7108704909. 1
- 7108704910. 2
- 7108704911. 3
- 7108704912. 4

Question Number : 89 Question Id : 7108701229 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The number of active sites present in mammalian Fatty Acid Synthase System are

1. 2
2. 4
3. 7
4. 10

Options :

- 7108704913. 1
- 7108704914. 2
- 7108704915. 3
- 7108704916. 4

Question Number : 90 Question Id : 7108701230 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

What is the concentration of H^+ in a solution of 0.001 N NaOH?

1. 10^{-10} M
2. 10^{-11} M
3. 10^{-12} M
4. 10^{-13} M

Options :

7108704917. 1
7108704918. 2
7108704919. 3
7108704920. 4

Question Number : 91 Question Id : 7108701231 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which of the following sets of amino acids is considered as essential for humans?

1. Isoleucine, Lysine, Methionine
2. Alanine, Proline, Aspartate
3. Tyrosine, Serine, Cysteine
4. Glutamate, Alanine, Glycine

Options :

7108704921. 1
7108704922. 2
7108704923. 3
7108704924. 4

Question Number : 92 Question Id : 7108701232 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The major precursor for the biosynthesis of porphyrins is

1. Proline
2. Threonine
3. Glycine
4. Aspartate

Options :

- 7108704925. 1
- 7108704926. 2
- 7108704927. 3
- 7108704928. 4

Question Number : 93 Question Id : 7108701233 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Lesch Nyhan syndrome is caused due to the defect in which one of the following enzymes?

1. Hypoxanthine-guanine phosphoribosyltransferase
2. Xanthine oxidase
3. Nucleosidase
4. Adenosine deaminase

Options :

- 7108704929. 1
- 7108704930. 2
- 7108704931. 3
- 7108704932. 4

Question Number : 94 Question Id : 7108701234 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The inner diameter of the nuclear pores present in the membranes of the nucleus is

1. 10 nm
2. 50 nm
3. 90 nm
4. 150 nm

Options :

- 7108704933. 1
- 7108704934. 2
- 7108704935. 3
- 7108704936. 4

Question Number : 95 Question Id : 7108701235 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Fatty acids are broken down into two carbon units of X, which participate in the oxidation process. X is

1. Malonyl CoA
2. Acetyl CoA
3. Coenzyme A
4. ACP

Options :

- 7108704937. 1
- 7108704938. 2
- 7108704939. 3
- 7108704940. 4

Question Number : 96 Question Id : 7108701236 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

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

List I	List II
A. Non-polar R group	I. Histidine
B. Polar but uncharged R group	II. Glutamic acid
C. Negatively charged group	III. Cysteine
D. Positively charged group	IV. Leucine

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

1. A - IV, B - III, C - II, D - I
2. A - IV, B - III, C - I, D - II
3. A - III, B - IV, C - I, D - II

Options :

- 7108704941. 1
- 7108704942. 2
- 7108704943. 3
- 7108704944. 4

Question Number : 97 Question Id : 7108701237 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The short fragment of DNA that is synthesized discontinuously during the replication process is called

1. Leading strand
2. Adaptor sequence
3. Okazaki Fragment
4. Interspersed fragment

Options :

- 7108704945. 1

7108704946. 2

7108704947. 3

7108704948. 4

Question Number : 98 Question Id : 7108701238 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

What is the average amount of carbohydrate consumed per gram of nitrogen fixed?

1. 5 g

2. 12 g

3. 50 g

4. 100 g

Options :

7108704949. 1

7108704950. 2

7108704951. 3

7108704952. 4

Question Number : 99 Question Id : 7108701239 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The peptidyl transferase centre is located on which of the following ribosomal subunits?

1. 30s subunit

2. 40s subunit

3. 50s subunit

4. 60s subunit

Options :

7108704953. 1

7108704954. 2

7108704955. 3

7108704956. 4

Question Number : 100 Question Id : 7108701240 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following softwares can be used for analyzing the localization of proteins?

1. PSORT
2. BLAST
3. EXAPSY
4. PHYRE

Options :

7108704957. 1

7108704958. 2

7108704959. 3

7108704960. 4

Question Number : 101 Question Id : 7108701241 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Siroheme protein is part of which of the following enzymes of nitrogen metabolism?

1. Nitrate reductase
2. Nitrite reductase
3. Glutamine synthetase
4. Glutamate synthase

Options :

7108704961. 1

7108704962. 2

7108704963. 3

7108704964. 4

Question Number : 102 Question Id : 7108701242 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

A key precursor in the biosynthesis of chlorophyll is

1. Porphyrin
2. Isoprene
3. Aspartic acid
4. δ – aminolevulinic acid

Options :

7108704965. 1
7108704966. 2
7108704967. 3
7108704968. 4

Question Number : 103 Question Id : 7108701243 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The polypeptide chain originates at the

- A. Carboxy terminal end
- B. Amino-terminal end

Select the **most appropriate** answer from the options given below

1. A only
2. B only
3. Either A or B
4. Neither A nor B

Options :

- 7108704969. 1
- 7108704970. 2
- 7108704971. 3
- 7108704972. 4

Question Number : 104 Question Id : 7108701244 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The enzyme "Dinitrogenase Reductase" is mainly a

- 1. Homodimer
- 2. Heterodimer
- 3. Heterotetramer
- 4. Homotetramer

Options :

- 7108704973. 1
- 7108704974. 2
- 7108704975. 3
- 7108704976. 4

Question Number : 105 Question Id : 7108701245 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The enzyme responsible for introducing negative supercoils in DNA is

- 1. DNA primase
- 2. Topoisomerase-I
- 3. Topoisomerase-II
- 4. Helicase

Options :

- 7108704977. 1

7108704978. 2

7108704979. 3

7108704980. 4

Question Number : 106 Question Id : 7108701246 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Photosynthetic organism use the Calvin cycle to produce glucose from

1. Starch
2. Fructose
3. CO₂ and H₂O
4. CO₂ only

Options :

7108704981. 1

7108704982. 2

7108704983. 3

7108704984. 4

Question Number : 107 Question Id : 7108701247 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The pigment which lacks the phytol tail is

1. Chlorophyll
2. Carotenoids
3. Phycobilins
4. Xanthophyll

Options :

7108704985. 1

7108704986. 2

7108704987. 3

7108704988. 4

Question Number : 108 Question Id : 7108701248 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The specialized Kranz anatomy is present in the leaves of which of the following plants?

1. Wheat
2. Rice
3. Maize
4. Pigeon Pea

Options :

- 7108704989. 1
- 7108704990. 2
- 7108704991. 3
- 7108704992. 4

Question Number : 109 Question Id : 7108701249 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

How do tropical plants growing in a hot climate prevent very high rates of photorespiration?

1. They achieve a high local concentration of CO₂ at the site of Calvin Cycle
2. They achieve a low concentration of CO₂ at the site of Calvin cycle
3. They modulate the activity of Ribulose-5-phosphate kinase
4. They modulate the activity of glyceraldehyde-3-phosphate

Options :

- 7108704993. 1
- 7108704994. 2
- 7108704995. 3
- 7108704996. 4

Question Number : 110 Question Id : 7108701250 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which one of the following is an NGS platform?

A. Nanopore Oxford

B. Illumina HiSeq

C. Roche 454

Select the most appropriate answer from the options given below

1. A only
2. A and B only
3. C only
4. A, B and C - all three

Options :

7108704997. 1

7108704998. 2

7108704999. 3

7108705000. 4

Question Number : 111 Question Id : 7108701251 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Corticotropin is secreted by

1. Hypothalamus
2. Anterior pituitary
3. Posterior pituitary
4. Pancreas

Options :

- 7108705001. 1
- 7108705002. 2
- 7108705003. 3
- 7108705004. 4

Question Number : 112 Question Id : 7108701252 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The presence of Thymine instead of Uracil in DNA permits the repair of deaminated

- 1. Adenine
- 2. Guanine
- 3. Cytosine
- 4. Thymidine

Options :

- 7108705005. 1
- 7108705006. 2
- 7108705007. 3
- 7108705008. 4

Question Number : 113 Question Id : 7108701253 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Rickets is caused due to the deficiency of

- 1. Vitamin A
- 2. Vitamin D
- 3. Vitamin C
- 4. Vitamin E

Options :

- 7108705009. 1

7108705010. 2

7108705011. 3

7108705012. 4

Question Number : 114 Question Id : 7108701254 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Very long-chain omega-3-fatty acid are predominantly present in

1. Wheat
2. Milk
3. Soybean
4. Fish

Options :

7108705013. 1

7108705014. 2

7108705015. 3

7108705016. 4

Question Number : 115 Question Id : 7108701255 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The binding of which of the following proteins is the first step of the preparatory phase of DNA replication in bacteria?

1. DnaA
2. DnaB
3. DNA Polymerase III
4. DNA Polymerase I

Options :

7108705017. 1

7108705018. 2

7108705019. 3

7108705020. 4

Question Number : 116 Question Id : 7108701256 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Most carbon atoms in porphyrins come from which intermediate of the citric acid cycle?

1. Citrate
2. Alpha-ketoglutarate
3. Succinyl CoA
4. Oxaloacetate

Options :

7108705021. 1

7108705022. 2

7108705023. 3

7108705024. 4

Question Number : 117 Question Id : 7108701257 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following has the highest Vitamin C content?

1. Guava
2. Grapes
3. Aonla
4. Apple

Options :

7108705025. 1

7108705026. 2

7108705027. 3

7108705028. 4

Question Number : 118 Question Id : 7108701258 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The enzyme which is called as 'pacemaker' of glycolysis is

1. Pyruvate kinase
2. Phosphorylase
3. Hexokinase
4. Phosphofructokinase

Options :

7108705029. 1
7108705030. 2
7108705031. 3
7108705032. 4

Question Number : 119 Question Id : 7108701259 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

The fundamental difference between the TCA cycle and the Glyoxylate pathway is

1. Absence of the two decarboxylation steps of the TCA cycle in the Glyoxylate pathway
2. Condensation of Acetyl CoA and Oxaloacetate to form citrate
3. Conversion of malate to oxaloacetate
4. Conversion of citrate to Isocitrate

Options :

7108705033. 1
7108705034. 2
7108705035. 3
7108705036. 4

Question Number : 120 Question Id : 7108701260 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 4 Wrong Marks : 1

Which antibiotic inhibits protein synthesis by blocking the attachment of charged aminoacyl-tRNA to the A site of the ribosomes?

1. Tetracycline
2. Puromycin
3. Chloramphenicol
4. Streptomycin

Options :

- 7108705037. 1
- 7108705038. 2
- 7108705039. 3
- 7108705040. 4