

National Testing Agency

Question Paper Name :	Agricultural Microbiology 23rd Sep 2020 Shift 2 Set 2
Subject Name :	Agricultural Microbiology
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Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes

Agricultural Microbiology

Group Number :	1
Group Id :	71087013
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 :	71087037
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 :	71087037
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 7108701501 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 :

- 7108706001. 1
- 7108706002. 2
- 7108706003. 3
- 7108706004. 4

Question Number : 2 Question Id : 7108701502 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 :

- 7108706005. 1
- 7108706006. 2
- 7108706007. 3
- 7108706008. 4

Question Number : 3 Question Id : 7108701503 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 :

- 7108706009. 1

7108706010. 2

7108706011. 3

7108706012. 4

Question Number : 4 Question Id : 7108701504 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 :

7108706013. 1

7108706014. 2

7108706015. 3

7108706016. 4

Question Number : 5 Question Id : 7108701505 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 :

- 7108706017. 1
- 7108706018. 2
- 7108706019. 3
- 7108706020. 4

Question Number : 6 Question Id : 7108701506 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 :

- 7108706021. 1
- 7108706022. 2
- 7108706023. 3
- 7108706024. 4

Question Number : 7 Question Id : 7108701507 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 :

- 7108706025. 1
- 7108706026. 2
- 7108706027. 3
- 7108706028. 4

Question Number : 8 Question Id : 7108701508 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 :

7108706029. 1
7108706030. 2
7108706031. 3
7108706032. 4

Question Number : 9 Question Id : 7108701509 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 :

7108706033. 1
7108706034. 2
7108706035. 3
7108706036. 4

Question Number : 10 Question Id : 7108701510 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 :

7108706037. 1

7108706038. 2

7108706039. 3

7108706040. 4

Question Number : 11 Question Id : 7108701511 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 :

7108706041. 1

7108706042. 2

7108706043. 3

7108706044. 4

Question Number : 12 Question Id : 7108701512 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 :

7108706045. 1
7108706046. 2
7108706047. 3
7108706048. 4

Question Number : 13 Question Id : 7108701513 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 :

7108706049. 1
7108706050. 2
7108706051. 3
7108706052. 4

Question Number : 14 Question Id : 7108701514 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 :

- 7108706053. 1
- 7108706054. 2
- 7108706055. 3
- 7108706056. 4

Question Number : 15 Question Id : 7108701515 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 :

- 7108706057. 1
- 7108706058. 2
- 7108706059. 3
- 7108706060. 4

Question Number : 16 Question Id : 7108701516 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 :

- 7108706061. 1
- 7108706062. 2
- 7108706063. 3
- 7108706064. 4

Question Number : 17 Question Id : 7108701517 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 :

- 7108706065. 1
- 7108706066. 2
- 7108706067. 3
- 7108706068. 4

Question Number : 18 Question Id : 7108701518 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 :

- 7108706069. 1
- 7108706070. 2
- 7108706071. 3
- 7108706072. 4

Question Number : 19 Question Id : 7108701519 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 :

- 7108706073. 1
- 7108706074. 2
- 7108706075. 3
- 7108706076. 4

Question Number : 20 Question Id : 7108701520 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 :

- 7108706077. 1

7108706078. 2
7108706079. 3
7108706080. 4

Part B Core Crop Sciences-III

Section Id :	71087038
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 :	71087038
Question Shuffling Allowed :	Yes

Question Number : 21 Question Id : 7108701521 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 :

7108706081. 1
7108706082. 2

7108706083. 3

7108706084. 4

Question Number : 22 Question Id : 7108701522 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 :

7108706085. 1

7108706086. 2

7108706087. 3

7108706088. 4

Question Number : 23 Question Id : 7108701523 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 :

7108706089. 1

7108706090. 2

7108706091. 3

7108706092. 4

Question Number : 24 Question Id : 7108701524 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 :

- 7108706093. 1
- 7108706094. 2
- 7108706095. 3
- 7108706096. 4

Question Number : 25 Question Id : 7108701525 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 :

- 7108706097. 1
- 7108706098. 2
- 7108706099. 3
- 7108706100. 4

Question Number : 26 Question Id : 7108701526 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 :

- 7108706101. 1
- 7108706102. 2
- 7108706103. 3
- 7108706104. 4

Question Number : 27 Question Id : 7108701527 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 :

- 7108706105. 1
- 7108706106. 2
- 7108706107. 3
- 7108706108. 4

Question Number : 28 Question Id : 7108701528 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 :

- 7108706109. 1
- 7108706110. 2
- 7108706111. 3
- 7108706112. 4

Question Number : 29 Question Id : 7108701529 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 :

- 7108706113. 1
- 7108706114. 2
- 7108706115. 3
- 7108706116. 4

Question Number : 30 Question Id : 7108701530 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 :

- 7108706117. 1
- 7108706118. 2
- 7108706119. 3
- 7108706120. 4

Question Number : 31 Question Id : 7108701531 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 :

- 7108706121. 1
- 7108706122. 2
- 7108706123. 3
- 7108706124. 4

Question Number : 32 Question Id : 7108701532 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 :

7108706125. 1
7108706126. 2
7108706127. 3
7108706128. 4

Question Number : 33 Question Id : 7108701533 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 :

7108706129. 1

7108706130. 2

7108706131. 3

7108706132. 4

Question Number : 34 Question Id : 7108701534 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 :

7108706133. 1

7108706134. 2

7108706135. 3

7108706136. 4

Question Number : 35 Question Id : 7108701535 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 :

- 7108706137. 1
- 7108706138. 2
- 7108706139. 3
- 7108706140. 4

Question Number : 36 Question Id : 7108701536 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 :

- 7108706141. 1
- 7108706142. 2
- 7108706143. 3
- 7108706144. 4

Question Number : 37 Question Id : 7108701537 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 :

- 7108706145. 1
- 7108706146. 2
- 7108706147. 3
- 7108706148. 4

Question Number : 38 Question Id : 7108701538 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 :

7108706149. 1

7108706150. 2

7108706151. 3

7108706152. 4

Question Number : 39 Question Id : 7108701539 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 :

7108706153. 1

7108706154. 2

7108706155. 3

7108706156. 4

Question Number : 40 Question Id : 7108701540 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 :

- 7108706157. 1
- 7108706158. 2
- 7108706159. 3
- 7108706160. 4

Question Number : 41 Question Id : 7108701541 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 :

- 7108706161. 1
- 7108706162. 2
- 7108706163. 3
- 7108706164. 4

Question Number : 42 Question Id : 7108701542 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 :

- 7108706165. 1
- 7108706166. 2
- 7108706167. 3
- 7108706168. 4

Question Number : 43 Question Id : 7108701543 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 :

- 7108706169. 1
- 7108706170. 2
- 7108706171. 3
- 7108706172. 4

Question Number : 44 Question Id : 7108701544 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 :

- 7108706173. 1
- 7108706174. 2
- 7108706175. 3
- 7108706176. 4

Question Number : 45 Question Id : 7108701545 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 :

- 7108706177. 1
- 7108706178. 2
- 7108706179. 3
- 7108706180. 4

Question Number : 46 Question Id : 7108701546 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 :

- 7108706181. 1
- 7108706182. 2
- 7108706183. 3
- 7108706184. 4

Question Number : 47 Question Id : 7108701547 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 :

- 7108706185. 1
- 7108706186. 2
- 7108706187. 3

7108706188. 4

Question Number : 48 Question Id : 7108701548 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 :

7108706189. 1
7108706190. 2
7108706191. 3
7108706192. 4

Question Number : 49 Question Id : 7108701549 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 :

7108706193. 1
7108706194. 2
7108706195. 3
7108706196. 4

Question Number : 50 Question Id : 7108701550 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 :

- 7108706197. 1
- 7108706198. 2
- 7108706199. 3
- 7108706200. 4

Question Number : 51 Question Id : 7108701551 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 :

- 7108706201. 1
- 7108706202. 2
- 7108706203. 3
- 7108706204. 4

Question Number : 52 Question Id : 7108701552 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 :

- 7108706205. 1
- 7108706206. 2
- 7108706207. 3
- 7108706208. 4

Question Number : 53 Question Id : 7108701553 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 :

- 7108706209. 1
- 7108706210. 2
- 7108706211. 3

7108706212. 4

Question Number : 54 Question Id : 7108701554 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 :

7108706213. 1

7108706214. 2

7108706215. 3

7108706216. 4

Question Number : 55 Question Id : 7108701555 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 :

7108706217. 1

7108706218. 2

7108706219. 3

7108706220. 4

Question Number : 56 Question Id : 7108701556 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 :

7108706221. 1
7108706222. 2
7108706223. 3
7108706224. 4

Question Number : 57 Question Id : 7108701557 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 :

7108706225. 1
7108706226. 2
7108706227. 3
7108706228. 4

Question Number : 58 Question Id : 7108701558 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 :

7108706229. 1
7108706230. 2
7108706231. 3
7108706232. 4

Question Number : 59 Question Id : 7108701559 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 :

7108706233. 1

7108706234. 2

7108706235. 3

7108706236. 4

Question Number : 60 Question Id : 7108701560 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 :

7108706237. 1

7108706238. 2

7108706239. 3

7108706240. 4

Question Number : 61 Question Id : 7108701561 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 :

7108706241. 1

7108706242. 2

7108706243. 3

7108706244. 4

Question Number : 62 Question Id : 7108701562 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 :

7108706245. 1

7108706246. 2

7108706247. 3

7108706248. 4

Question Number : 63 Question Id : 7108701563 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 :

7108706249. 1

7108706250. 2

7108706251. 3

7108706252. 4

Question Number : 64 Question Id : 7108701564 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 :

- 7108706253. 1
- 7108706254. 2
- 7108706255. 3
- 7108706256. 4

Question Number : 65 Question Id : 7108701565 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 :

- 7108706257. 1
- 7108706258. 2
- 7108706259. 3
- 7108706260. 4

Question Number : 66 Question Id : 7108701566 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 :

7108706261. 1

7108706262. 2

7108706263. 3

7108706264. 4

Question Number : 67 Question Id : 7108701567 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 :

7108706265. 1

7108706266. 2

7108706267. 3

7108706268. 4

Question Number : 68 Question Id : 7108701568 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 :

- 7108706269. 1
- 7108706270. 2
- 7108706271. 3
- 7108706272. 4

Question Number : 69 Question Id : 7108701569 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 :

- 7108706273. 1
- 7108706274. 2
- 7108706275. 3
- 7108706276. 4

Question Number : 70 Question Id : 7108701570 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 :

7108706277. 1

7108706278. 2

7108706279. 3

7108706280. 4

Part C Agricultural Microbiology

Section Id :	71087039
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 :	71087039
Question Shuffling Allowed :	Yes

Question Number : 71 Question Id : 7108701571 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 solidifying agents for microbial growth media was first used by Robert Koch?

1. Agar agar
2. Potato
3. Gelatin
4. Arabic Gum

Options :

- 7108706281. 1
- 7108706282. 2
- 7108706283. 3
- 7108706284. 4

Question Number : 72 Question Id : 7108701572 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, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Life arises spontaneously from a pre-existing life only

Reason R: Lazzaro Spallanzani proved it by swan-necked flask experiment

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

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

Options :

- 7108706285. 1
- 7108706286. 2
- 7108706287. 3
- 7108706288. 4

Question Number : 73 Question Id : 7108701573 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 developed the universal phylogenetic tree?

1. Norman Pace
2. Edward Hitchcock
3. Walter Reed
4. Theobald Smith

Options :

- 7108706289. 1

7108706290. 2

7108706291. 3

7108706292. 4

Question Number : 74 Question Id : 7108701574 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 coined the term Mycorrhizae?

1. A B Frank
2. Barbarra Mosse
3. F E Clark
4. Kirkham

Options :

7108706293. 1

7108706294. 2

7108706295. 3

7108706296. 4

Question Number : 75 Question Id : 7108701575 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, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Pasteur called the attenuated culture "a vaccine" in the honor of Edward Jenner

Reason R: Edward Jenner used material from cowpox lesions to protect against smallpox

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

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

Options :

7108706297. 1

7108706298. 2

7108706299. 3

7108706300. 4

Question Number : 76 Question Id : 7108701576 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 international body governing the taxonomic classification and description of new Bacteria and Archaea species is

1. Bergey's Manual of Systematic Bacteriology
2. International Committee on Systematic and Evolutionary Microbiology
3. International Code of Nomenclature of Bacteria
4. International Committee on the Systematics of Prokaryotes

Options :

- 7108706301. 1
- 7108706302. 2
- 7108706303. 3
- 7108706304. 4

Question Number : 77 Question Id : 7108701577 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 techniques separates genes of the same size that differ in their melting profile because of differences in their base sequences?

1. RAPD
2. DGGE
3. T-RFLP
4. ARISA

Options :

- 7108706305. 1
- 7108706306. 2
- 7108706307. 3
- 7108706308. 4

Question Number : 78 Question Id : 7108701578 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 isolation and cultivation of phototrophic bacteria, which kind of light is preferred?

1. Artificial medium incandescent light
2. Direct sunlight
3. Green light filters
4. Infra red

Options :

7108706309. 1

7108706310. 2

7108706311. 3

7108706312. 4

Question Number : 79 Question Id : 7108701579 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 approach used for monitoring nutrient flux in the ecosystem among microorganisms is termed as

1. Micro autoradiography
2. Multi autoradiography
3. Stable isotope probing
4. ISRT-FISH

Options :

7108706313. 1

7108706314. 2

7108706315. 3

7108706316. 4

Question Number : 80 Question Id : 7108701580 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 microscopy, the use of a laser beam to illuminate a specimen which is fluorescently stained is termed as

1. Fluorescent microscopy
2. Confocal microscopy
3. Differential interference contrast microscopy
4. UV Microscopy

Options :

- 7108706317. 1
- 7108706318. 2
- 7108706319. 3
- 7108706320. 4

Question Number : 81 Question Id : 7108701581 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 solute is responsible for the survival of halophiles in high salt habitats?

1. Sodium chloride
2. Glycine betaine
3. Choline
4. Ectoine

Options :

- 7108706321. 1
- 7108706322. 2
- 7108706323. 3
- 7108706324. 4

Question Number : 82 Question Id : 7108701582 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, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Haloarchaea, lacks chlorophyll, but still can carry out the light-driven synthesis of ATP

Reason R: Haloarchaea synthesizes bacteriorhodopsin which can generate PMF coupled ATP synthesis

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

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

Options :

- 7108706325. 1
- 7108706326. 2
- 7108706327. 3
- 7108706328. 4

Question Number : 83 Question Id : 7108701583 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 microbial growth kinetics the term $0.301/g$ is termed as:

1. Division rate
2. Exponential growth
3. Specific growth rate
4. Monad's equation

Options :

7108706329. 1

7108706330. 2

7108706331. 3

7108706332. 4

Question Number : 84 Question Id : 7108701584 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, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Heterocyst formation is triggered by nitrogen limitation, which is sensed by the decreased levels of α -ketoglutarate

Reason R: Under nitrogen starvation, the transcriptional global regulator *NtcA* is activated which further activates *HetR* genes controlling the heterocyst formation

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

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

Options :

7108706333. 1

7108706334. 2

7108706335. 3

7108706336. 4

Question Number : 85 Question Id : 7108701585 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 marine cyanobacterium is responsible for fixing nitrogen under dark anoxic conditions?

1. *Trichodesmium*
2. *Anacystis*
3. *Synechococcus*
4. *Prochlorococcus*

Options :

7108706337. 1
7108706338. 2
7108706339. 3
7108706340. 4

Question Number : 86 Question Id : 7108701586 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 plasmids carrying genes that confer on the host cell, resistance to antibiotics and other toxic agents are termed as

1. Hfr factors
2. R factors
3. Q factors
4. Cryptic plasmids

Options :

7108706341. 1
7108706342. 2
7108706343. 3
7108706344. 4

Question Number : 87 Question Id : 7108701587 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 competent cell or competence factor is associated with

1. Ability of bacteriophage to carry out transduction efficiently
2. Ability of bacteria to take up foreign DNA efficiently from environment
3. Ability of bacteria to carry out conjugation
4. Competence of bacteria to avoid/repair genetic mutations

Options :

- 7108706345. 1
- 7108706346. 2
- 7108706347. 3
- 7108706348. 4

Question Number : 88 Question Id : 7108701588 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 regulation of trp operon through attenuation is carried out in bacteria at

1. Translational level
2. Post translational level
3. Protein secondary structure moderation level
4. Transcriptional level

Options :

- 7108706349. 1
- 7108706350. 2
- 7108706351. 3
- 7108706352. 4

Question Number : 89 Question Id : 7108701589 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 T4 genome first replicates as a unit and then several genomic units recombine end to end to form a long DNA molecule. Such molecules are called

1. Vironcatemer
2. Linear-catemer
3. Concatemer
4. Terminal-catemer

Options :

- 7108706353. 1
- 7108706354. 2
- 7108706355. 3
- 7108706356. 4

Question Number : 90 Question Id : 7108701590 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 the 21st amino acid discovered in some of the prokaryotes?

1. Selenocysteine
2. Ferroisoleucine
3. Magnoglycine
4. Silicoarginine

Options :

- 7108706357. 1
- 7108706358. 2
- 7108706359. 3
- 7108706360. 4

Question Number : 91 Question Id : 7108701591 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 estimations reveals the fungal biomass activity in the soil?

1. Fungal mycelia estimation
2. Fungal sporulation activity
3. Fungal chitin estimation
4. Ergosterol estimation in soil

Options :

- 7108706361. 1
- 7108706362. 2
- 7108706363. 3
- 7108706364. 4

Question Number : 92 Question Id : 7108701592 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

By which process is carbon influx is stored by the cyanobacteria in the earth?

1. Carboxyzyyme
2. Carbon concentrated mechanism
3. Carboxylation
4. Carbonic acid secretion

Options :

- 7108706365. 1
- 7108706366. 2
- 7108706367. 3
- 7108706368. 4

Question Number : 93 Question Id : 7108701593 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 forms of cellulases are highly effective for microbial cell glucose assimilation after enzymatic action of celluloses in soil?

1. Fungal cellulases
2. Actinobacterial cellulases
3. Bacterial cellulases
4. Archaeal cellulases

Options :

- 7108706369. 1
- 7108706370. 2
- 7108706371. 3
- 7108706372. 4

Question Number : 94 Question Id : 7108701594 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 of the following is the glycoprotein found in the soil due to AM fungi inoculation to plants?

1. Glomalin
2. Glomeratin
3. Gigatin
4. Eugenol

Options :

- 7108706373. 1
- 7108706374. 2
- 7108706375. 3
- 7108706376. 4

Question Number : 95 Question Id : 7108701595 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 dominant groups of bacteria which utilize exclusively, root exudates for their proliferation in the rhizosphere region?

1. Firmicutes and Deniococcus
2. Sphingobacteriales and Myxococcus
3. Bacteroidetes and Mollicutes
4. Plantomycetes and Verrucomicrobia

Options :

7108706377. 1
7108706378. 2
7108706379. 3
7108706380. 4

Question Number : 96 Question Id : 7108701596 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 groups of α -Proteobacteria produce prostheca or buds for reproduction?

1. Hyphomicrobiaceae
2. Myxobacteriaceae
3. Pseudomonadaceae
4. Geobacteriaceae

Options :

7108706381. 1
7108706382. 2
7108706383. 3
7108706384. 4

Question Number : 97 Question Id : 7108701597 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: The rhizosphere region is influenced by the growth of bacteria using root exudates

Statement II: The groups of bacteria which are influenced by root exudates in the rhizosphere region show proto cooperation, symbiosis and parasitism

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 :

7108706385. 1

7108706386. 2

7108706387. 3

7108706388. 4

Question Number : 98 Question Id : 7108701598 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 type III secreted compound that causes virulence and pathogenicity in Gram-negative bacteria?

1. Quinones
2. Sulfide
3. Effector protein nanomaterial
4. Aerobactin

Options :

7108706389. 1
7108706390. 2
7108706391. 3
7108706392. 4

Question Number : 99 Question Id : 7108701599 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

Flowering plants that lack chlorophyll (e.g. Indian pine) are colonized mainly by which of the following types of mycorrhizae?

1. Arbuscular
2. Orchidaceous mycorrhizae
3. Ectendomycorrhizae
4. Monotropoid mycorrhizae

Options :

7108706393. 1
7108706394. 2
7108706395. 3
7108706396. 4

Question Number : 100 Question Id : 7108701600 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 first example of quorum sensing was observed in which gram-positive bacteria?

1. *Streptococcus pneumoniae*
2. *Clostridium botulinum*
3. *Clostridium tetani*
4. *Staphylococcus aureus*

Options :

- 7108706397. 1
- 7108706398. 2
- 7108706399. 3
- 7108706400. 4

Question Number : 101 Question Id : 7108701601 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 international commission is responsible for the publication of microbial load in foods?

1. ICMSF
2. HACCP
3. FDA
4. FSSAI

Options :

- 7108706401. 1
- 7108706402. 2
- 7108706403. 3
- 7108706404. 4

Question Number : 102 Question Id : 7108701602 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: Probiotic microbes help to balance human intestinal microbiome and thereby alleviate hypertension and stress

Statement II: Probiotic microbes produce oxytocin and nisin which lower hypertension and kills food pathogenic microorganisms, respectively

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 :

- 7108706405. 1
- 7108706406. 2
- 7108706407. 3
- 7108706408. 4

Question Number : 103 Question Id : 7108701603 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 cheeses is ripened with bacterial inoculation?

1. Cammembertii Cheese
2. Blue Cheese
3. Swiss Cheese
4. Cheddar Cheese

Options :

- 7108706409. 1
- 7108706410. 2

7108706411. 3

7108706412. 4

Question Number : 104 Question Id : 7108701604 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 microbial indicators is detected and correlates with food quality in fruit juices?

1. Diacetyl
2. Putrescine
3. Histamine
4. Lactic acid

Options :

7108706413. 1

7108706414. 2

7108706415. 3

7108706416. 4

Question Number : 105 Question Id : 7108701605 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 methods is used to determine the microbial load inputs using dye?

1. Enrichment method
2. MBRT method
3. DEFT method
4. ELISA method

Options :

7108706417. 1

7108706418. 2

7108706419. 3

7108706420. 4

Question Number : 106 Question Id : 7108701606 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 is the primary agent?

1. Growth media composition
2. Mixing devices (agitators)
3. Microbial activity
4. Buffering agents

Options :

7108706421. 1

7108706422. 2

7108706423. 3

7108706424. 4

Question Number : 107 Question Id : 7108701607 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: The top fermentation yeast strains are used for the production of ale

Statement II: The bottom fermentation yeast strains are used for the production of lager beer

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 :

7108706425. 1

7108706426. 2

7108706427. 3

7108706428. 4

Question Number : 108 Question Id : 7108701608 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. <i>Ralstonia eutropha</i>	I. 2, 3 – butanediol
B. <i>Kluyveromyces fragilis</i>	II. Xylitol
C. <i>Candida tropicalis</i>	III. Polyhydroxyalkanoates
D. <i>Enterobacter</i>	IV. Ethanol from lactic acid
E. <i>Corynebacterium glutamicum</i>	V. Lysine

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

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

Options :

- 7108706429. 1
- 7108706430. 2
- 7108706431. 3
- 7108706432. 4

Question Number : 109 Question Id : 7108701609 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 size of Bt toxin injected into the insect gut membrane?

1. 68 kDa
2. 58 kDa
3. 48 kDa
4. 38 kDa

Options :

- 7108706433. 1

7108706434. 2

7108706435. 3

7108706436. 4

Question Number : 110 Question Id : 7108701610 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 particle size present in the medium after fermentation in tubular bowl centrifuges?

1. 0.1-500 μm or 20% solids
2. 0.1-250 μm or 15% solids
3. 0.1-750 μm or 30% solids
4. 0.1-200 μm or 10% solids

Options :

7108706437. 1

7108706438. 2

7108706439. 3

7108706440. 4

Question Number : 111 Question Id : 7108701611 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

Quantitative assessment of ACC deaminase activity is done spectrophotometrically in terms of

1. Succinic acid production
2. Acetate production
3. Nitrate production
4. α -ketoglutarate production

Options :

7108706441. 1

7108706442. 2

7108706443. 3

7108706444. 4

Question Number : 112 Question Id : 7108701612 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 immobilization of uranium by changing its oxidation state is carried out by

1. *Shewanella, Geobacter* and *Desulfovibrio*
2. *Sulfobacillus* sp, *Radiobacter* and *Thiobacillus*
3. *Acidithiobacillus* and *Leptospirillum*
4. *Pseudomonas putida, Burkholderia* and *Ralstonia eutropha*

Options :

- 7108706445. 1
- 7108706446. 2
- 7108706447. 3
- 7108706448. 4

Question Number : 113 Question Id : 7108701613 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

As per FCO norms, the population of AM Fungi infective propagules and AM fungi root infection point per gm inoculant, respectively are

1. 200 and 150
2. 150 and 100
3. 100 and 80
4. 250 and 200

Options :

- 7108706449. 1
- 7108706450. 2
- 7108706451. 3
- 7108706452. 4

Question Number : 114 Question Id : 7108701614 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. <i>Bacillus anthracis</i>	I. Animal sheath association
B. <i>Hematococcus</i>	II. Astaxanthin
C. <i>Trichophilus</i>	III. Biowarfare
D. <i>Spirulina platensis</i>	IV. Cures neurodegenerative disorder
E. <i>Spirogyra</i>	V. Role in lead detoxification

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

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

Options :

7108706453. 1

7108706454. 2

7108706455. 3

7108706456. 4

Question Number : 115 Question Id : 7108701615 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. Biologically controlled mineralization	I. <i>Acidothiobacillus ferrooxidans</i> and <i>A. caldus</i>
B. BIOX process	II. <i>Acidothiobacillus ferrooxidans</i>
C. Biomining of Fe and S	III. <i>Thiobacillus ferrooxidans</i>
D. Biomining of tailing dumps (high-quality ore)	IV. <i>Magnetospirillum</i>

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

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

Options :

- 7108706457. 1
- 7108706458. 2
- 7108706459. 3
- 7108706460. 4

Question Number : 116 Question Id : 7108701616 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 bioinformatic tool is used for identification of motifs?

1. BLAST
2. PROSPECT
3. EMBROS
4. COPA

Options :

- 7108706461. 1
- 7108706462. 2
- 7108706463. 3

7108706464. 4

Question Number : 117 Question Id : 7108701617 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 the following is NOT a gene expression database?

1. Fly view
2. Seed Genes
3. Gene Bank
4. Body Map

Options :

- 7108706465. 1
- 7108706466. 2
- 7108706467. 3
- 7108706468. 4

Question Number : 118 Question Id : 7108701618 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 standard error of the difference of the two independent quantities is measured by

1. Square root law
2. Null hypothesis
3. Averaging
4. Total deviation

Options :

- 7108706469. 1
- 7108706470. 2
- 7108706471. 3
- 7108706472. 4

Question Number : 119 Question Id : 7108701619 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 endophytic fungi produces the anticancer drug Taxol?

1. *Verticillium lacanii*
2. *Streptomyces sp*
3. *Metarhizium anisopoliae*
4. *Trichoderma reesi*

Options :

- 7108706473. 1
- 7108706474. 2
- 7108706475. 3
- 7108706476. 4

Question Number : 120 Question Id : 7108701620 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 diseases is transmitted by prions from animals to humans?

1. Bovine serum encephalopathy
2. SARS
3. Fatal familial insomnia
4. Gerstmann-Straussler Scheinker disease

Options :

- 7108706477. 1
- 7108706478. 2
- 7108706479. 3
- 7108706480. 4