BIOLOGY

BOOKS - SURA BIOLOGY (TAMIL ENGLISH)

PLANT BREEDING

Evaluation

1. Assertion (A) : Genetic variation provides the raw material for selection.

Reason (R) : Genetic variations are differences in genotypes of the individuals.

A. Assertion is right and reason is wrong

B. Assertion is wrong and reason is right

C. Both reason and assertion is right

D. Both reason and assertion is wrong

Answer: A::B::D

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2. While studying the history of domestication of various cultivated plants were recognized earlier.

A. Centres of origin

B. Centres of domestication

C. Centres of hybrid

D. Centres of variation

Answer: A::C

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3. Pick out the odd pair.

A. Mass selection - Morphological characters

B. Pureline selection - Repeated self pollination

C. Clonal selection - Sexually propagated

D. Natural selection - Involves nature

Answer: A::B::C::D

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4. The quickest method of plant breeding is

A. Introduction

B. Selection

C. Hybridization

D. Mutation breeding

Answer: B::C

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5. Desired improved variety of economically useful crops are raised by

A. Natural Selection

B. hybridization

C. mutation

D. biofertilisers

Answer: A::B::D

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6. Plants having similar genotypes produced by plant breeding are called

A. clone

B. haploid

C. autopolyploid

D. genome

Answer: A::C

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7. Importing better varieties and plants from outside and acclimatising them to local environment is called

A. cloning

B. heterosis

C. selection

D. introduction

Answer: C::D

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8. Dwarfing gene of wheat is

A. pal 1

B. Atomita 1

C. Norin 10

D. pelita 2

Answer: C

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9. Crosses between the plants of the same variety are called

A. interspecific

B. inter varietal

C. intra varietal

D. inter generic

Answer: A::C

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10. Progeny obtained as a result of repeat self pollination of a cross pollinated crop is called

A. Pure line

B. pedigree line

C. Inbreed line

D. heterosis

Answer: A

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11. Jaya and Ratna are the semi dwarf varieties of

A. wheat

B. rice

C. cowpea

D. mustard

Answer: B::C

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12. Which one of the following are the species that are crossed to give sugarcane varieties with high sugar, high yield, thick stems and ability to grow in the sugarcane belt of North India?

A. Saccharum robustum and Saccharum officinarum

B. Saccharum barberi and Saccharum officinarum

C. Saccharum sinense and Saccharum officinarum

D. Saccharum barberi and Saccharum robustum

Answer: A::B::C::D

13. A wheat variety, Atlas 66 which has been used as a donor for improving cultivated wheat, which is rich in

A. iron

B. carbohydrates

C. proteins

D. vitamins

Answer: C

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14. Which one of the following crop varieties correct matches with its resistance to a disease?

A.

Variety	Resistance to disease
Pusa Komal	Bacterial blight

B.

Variety	Resistance to disease
Pusa Sadabahar	White rust

C.

Variety	Resistance to disease
Pusa Shubhra	Chilli mosaic virus

D.

Variety	Resistance to disease
Brassica	Pusa swarnim

Answer: A::B::C

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15. Which of the following is incorrectly paired?

A. Wheat - Himgiri

B. Milch breed - Sahiwal

C. Rice - Ratna

D. Pusa Komal - Brassica

Answer: A::B::C::D

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16. Differentiate primary introduction from secondary introduction.

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17. How are microbial innoculants used to increase the soil fertility?

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18. What are the different types of hybridization?

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19. Explain the best suited type of breeding followed by plant breeders at present?

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20. Write a note on heterosis.

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21. List out the new breeding techniques involved in developing new traits in plant breeding .

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Botany Long Version Questions Long Version Evaluation

1. List the ways by which seeds can be stored for longer duration.

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2. Discuss the importance of neem in seed storage.

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Additional Questions And Answers Choose The Correct Answers

1. A strict isolation imposes to prevent the spread of disease is _____

A. Introduction

B. Hybridisation

C. Acclimatization

D. Quarantine

Answer: A::D

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2. Wheat varieties of Sonora 63, Sonora 64 introduced from

A. China

B. Mexico

C. Phillipines

D. German

Answer: B::C

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3. Explanation of NBPGR is.

A. National Bureau of Plant Genetic Resources

B. National Bureau Plan of Genetic of Resources

C. National Bureau of Plant genetic Resistance

D. National Bureau of Plant Genetic Rights

Answer: A::B::C

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4. Who introduced the concept of gene interaction _____

A. Hugo De Vries

B. Carl Correns

C. W. Bateson

D. Erich

Answer: A::B::C

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5. ____ species are free-living fungi.

A. Trichoderma

B. Indigofera

C. Tephrosia

D. crotalaria

Answer: A::C::D

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6. A plant growth promoting Rhizobacteria _____.

A. Bacillus

B. Amanita

C. Penicillium

D. Pseudomonas

Answer: A::D

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7. Most seaweed based fertilisers are prepared from _____.

A. Azolla

B. Rhizobium

C. Brown Algae

D. Arbuscular Mycorrhiza

Answer: A::B::C

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8. Use of Nano technology in crop production is _____.

A. Environmentally safe

B. Ecologically sustainable

C. Economically stable

D. All the above

Answer: A::B::C::D

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9. Development of improved varieties by combining good characteristics from two parents.

A. Cross breeding

B. Clonal selection

C. Targeted Breeding

D. None of these above

Answer: A::B::C::D

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10. Developing new genetic diversity by exposing crop plants to chemical agents or radiation

A. Mendel's laws

B. Mutagenesis

C. Cross breeding

D. Hybrid breeding

Answer: A::B

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11. _____ is not a green manure.

A. Indigofera

B. Sesbania

C. Pongamia

D. Beauveria

Answer: A::B::D

12. Beauveria helps plants by

A. adding nutrients to soil

B. fixing nitrogen

C. killing insects

D. mobilizing phosphorous

Answer: C

View Text Solution

13. Deviraj is a hybrid variety of _____

A. Rice

B. wheat

C. cotton

D. sugarcane

Answer: C

View Text Solution

14. Triple gene dwarf wheat is a product of _____.

A. selection

B. mutation breeding

C. hybridization

D. introduction

Answer: A::B::D

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15. Parbharni kranti is a improved variety of _____.

A. Rice

B. lady's finger

C. wheat

D. sugar cane

Answer: A::B::D

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16. _____ is not used for seed protection.

A. Citronella leaf oil

B. Salt water

C. lime water

D. Alginate

Answer: A

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17. Vavilov has given _____ main centres of origin of plants.

A. 7

B. 9

C. 8

D. 10

Answer: C

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18. Cas 9 is a _____.

A. vector

B. hybrid

C. protein

D. rDNA

Answer: C

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Additional Questions And Answers Choose The Correct Statements

1. Choose correct statement(s) about "Azolla':

(I) Azolla is a free-floating water fern.

(II) Azolla fixes the atmospheric nitrogen in association with nitrogen fixing blue green alga Anabaena azollae.

(III) It is used as a bio-fertilizer for wetland rice cultivation.

(IV) Not suitable for rice crop.

A. I, II and III only

B. I and II only

C. I, II and IV only

D. II, III and IV only

Answer: A::B::D

2. "SLF"

(I) Seaweed liquid fertilizer contains cytokinin.

(II) Seaweed based fertilizers are made from kelp.

(III) Liquid seaweed fertilizer is not an organic

product.

(IV) It forms long, cross-linked polymers in the soil.

A. I, II and III only

B. I and II only

C. I, II and IV only

D. II, III and IV only

Answer: C

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3. (I) World's first cotton hybrid is developed by N.G.P. Rao.

(II) Zhukovsky put forward the concept of mega gene centre for the cultivated species.

(III) C.T Patel developed world's first hybrid of sorghum.

(IV) Vavilov proposed 8 main geographic centres.

A. I, II and III only

B. I and II only

C. II and IV only

D. II, III and IV only

Answer: A::C::D

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4. (I) Beauveria does not affect plants.

(II) Pseudomonas flourescensce is plant growth promoting Rhizobacteria.

(III) Trichoderma increase the growth of fungus Aspergillus.

(IV) Seaweeds are used as fertilizers.

A. I and IV only

B. I, II and IV only

C. I and II only

D. I and III only

Answer: A::B::D

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Additional Questions And Answers Choose The Wrong Statements

1. Define green manuring.

A. Green manure is to increase the content of nitrogen in the soil.

B. Green manure decreases the content of nitrogen in the soil

C. The most important green manure crop is Crotalaria juncea.

D. Helps in improving the structure and physical properties of the soil.

Answer: A::B::C::D

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2. "Plant Breeding"

A. Increases the productivity of the crop.

B. To increase intolerance to environmental condition.

C. To prevent the premature falling of buds, fruits, etc.

D. To improve synchronous maturity.

Answer: A::B::C::D

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3. What is the note of Beauveria?

A. Beauveria species is an entomo-pathogenic fungus.

B. Grows naturally in soils throughout the world.

C. Acts as a parasite on various arthropod species.

D. Causes white muscardine disease and affect plant health.

Answer: A::C::D

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Additional Questions And Answers Assertion And Reason

1. Assertion (A) : Rhizobium is best suited for the paddy fields.

Reason (R) : It increases the yield from 15-40%

A. Both Assertion and Reason are true and Reason is correct explanation of Assertion .

B. Both Assertion and Reason are true but reason is not correct explanation of Assertion

C. Assertion is true , Reason is false.

D. Both Assertion and Reason are false.

Answer: A::B::C::D

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2. Assertion (A) : Hybridization is the method of producing new crop varieties.

Reason (R) : Hybridization offers improvement in crop.

A. Both Assertion and Reason are true and Reason is correct explanation of Assertion .

B. Both Assertion and Reason are true but reason is not correct explanation of Assertion

C. Assertion is true , Reason is false.

D. Both Assertion and Reason are false.

Answer: A::B::C::D

3. Assertion (A) : Biofertilizers are ecofriendly organic agro inputs and efficient than chemical fertilizers.

Reason (R) : They are efficient in destroying microbes.

A. Both Assertion and Reason are true and Reason is correct explanation of Assertion .

B. Both Assertion and Reason are true but reason is not correct explanation of Assertion

C. Assertion is true , Reason is false.

D. Both Assertion and Reason are false.

Answer: A::C

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4. Assertion (A) : Emasculation is a process of removal of anther to prevent self pollination.

Reason (R) : Anthesis is a period of opening of a flower.

A. Both Assertion and Reason are true and Reason is correct explanation of Assertion .

B. Both Assertion and Reason are true but reason is not correct explanation of Assertion

C. Assertion is true , Reason is false.

D. Both Assertion and Reason are false.

Answer: A::C

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Additional Questions And Answers Choose The Correct Pair

1. CHOOSE THE CORRECT PAIR :

A. Damping off Tomato - Rhizoctonia solani

B. Bio-pesticides - Toxic

C. Kelp - Green manuring

D. Brown algae - Beauveria

Answer: A

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2. CHOOSE THE CORRECT PAIR :

A. Bio priming - Planting seed

B. Green manure - Sesbania

C. Liquid seaweed - Artificial fertilizer

D. Atomita-2 - Bio fortification

Answer: A::B

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3. CHOOSE THE CORRECT PAIR :

A. Symbiotic - Clostridium

B. Rice variety - IR8

C. Arbuscular Mycorrhizae - Azolla

D. Biopesticides - Anabaena

Answer: A::B::C

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4. CHOOSE THE CORRECT PAIR :

A. DNA ligase - Paste the DNA molecule

B. Plasmid - Linear DNA molecule

C. ODM - Cisgenesis

D. Bhindi - Gossypium arboreum

Answer: A::C::D

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Additional Questions And Answers Choose The Incorrect Pair

1. CHOOSE THE INCORRECT PAIR:

A. Emasculation - Removal of anther

B. Bagging - Male and female plants

C. Crossing - Transfer of pollen grains

D. Harvesting - Raising Plants

Answer: A::B::D

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2. CHOOSE THE INCORRECT PAIR:

A. Intravarietal hybridization - Crossing same plants

B. Intervarietal hybridization - Crossing different plants

C. Interspecific hybridization - Crossing different species

D. Intergeneric hybridization - Crossing same gene species

Answer: A::B::C::D

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3. CHOOSE THE INCORRECT PAIR:

A. Atomita 2 - Rice with Saline tolerance

B. Psuedoheterosis - Luxuriance

C. Polyploids - Single chromosomes

D. Triploid - Sugar beets

Answer: C::D

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4. CHOOSE THE INCORRECT PAIR:

A. Aspergillus - Entomo pathogenic fungus

B. Indigofera - Green manure

C. Ectomycorrhiza - Amanita

D. 70 minerals - Sea weed

Answer: D

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5. CHOOSE THE INCORRECT PAIR:

A. Luxuriance - Pseudo heterosis

B. Gamma Garden - Mutation breeding

C. Brassica - Kara rai

D. Jaya and Ratna - Wheat variety

Answer: A::D

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Additional Questions And Answers Answer In One Word

1. Process of bringing a plant species under the control of humans _____.

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2. Who made an inventory of centres of origin of plant species _____.

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3. An example of biofertilizer _____.

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4. Symbiotic association of fungal hyphae with roots of higher plants _____.

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5. A symbiotic N_2 fixing bacterium found in leaves of fern _____.

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6. An example of a phosphorous mobilizing biofertilizer _____.

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7. An example of a phosphorous mobilizing biofertilizer _____.

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8. A biofertilizer used for enrichment of micronutrients _____.

Watch Video Solution

9. A plant growth promoting Rhizobacteria _____.

Watch Video Solution

10. A fungus used as Biopesticide _____.

Watch Video Solution

11. Name few plant species used in green manuring.

Watch Video Solution

12. Name few plant species used in green manuring.

Watch Video Solution

13. The adjustment of the introduced plant in the changed environment _____.

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14. A strict isolation imposes to prevent the spread of disease is ____

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15. A collection of plants obtained as a result of self pollination from a homozygous individual _____.

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16. Progenies derived from a asexually propagated plant _____.

Watch Video Solution

17. Who first observed natural hybridization in maize _____.

Watch Video Solution

18. Who coined the term pureline _____.

Watch Video Solution

19. Removal of anthers to prevent self pellination _____.

Watch Video Solution

20. Transfer of pollen from selected male plant to stigma of a female plant _____.

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21. Another name for hybrid vigour _____.

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22. Who first used the term heterosis _____.

View Text Solution

23. Who coined the term mutation breeding _____.

Watch Video Solution

24. A variety of wheat produced by mutation breeding _____.

Watch Video Solution

25. Type of rice produced by mutation breeding _____.

Watch Video Solution

26. Where was first Gamma Garden set up _____.

View Text Solution

27. Who coined the term green revolution _____.

Watch Video Solution

28. Give example of plant variety bred for disease resistance _____.

Watch Video Solution

29. Breeding crops for improving nutritional quality _____.

Watch Video Solution

30. Example of a crop bred for biofortification _____ Atlas 66.

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31. Physiological preconditioning of seeds to protect them _____.

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32. Enclosing seeds in a filter inert material to protect them _____.

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Additional Questions And Answers Very Short Answers

1. What is organic agriculture?

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2. Name few plant species used in green manuring.

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3. Define green in-situ manuring / Green leaf manuring.

Watch Video Solution

4. What is acclimatization?

Watch Video Solution

5. Write a note on NBPGR.

Watch Video Solution

6. What are the steps involved in Hybridisation?

Watch Video Solution

7. Differentiate Natural selection and Artificial selection.

Watch Video Solution

8. Define euheterosis.

Watch Video Solution

9. What is seed certification?

Watch Video Solution

10. What are the benefits of seed treatment?

Watch Video Solution

11. Comment on Parbharni kranti.

 Watch Video Solution

12. Define Biofortification.

 Watch Video Solution

13. What are the objectives for Breeding to improve nutritional quality?

 Watch Video Solution

14. Comment on gamma Garden or atomic Garden.

Watch Video Solution

15. Differentiate Mutational Euheterosis and Balanced Euheterosis.

Watch Video Solution

16. Mention the different types of biofertilizers.

Watch Video Solution

17. Comment on Azolla.

Watch Video Solution

18. What is AM?

Watch Video Solution

19. "Trichoderma - bio-control agent" - Justify this statement.

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20. List out the benefits of seed hardening.

Watch Video Solution

21. Differentiate Intervarietal hybridization and Intravarietal hybridization.

Watch Video Solution

22. Define green manuring.

Watch Video Solution

23. Define Bio-priming.

Watch Video Solution

24. What is cisgenesis?

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Additional Questions And Answers Short Answers

1. List out the possible changes occur in the plant species due to domestication.

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2. List out the important Indian plant breeders and their role in plant breeding.

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3. What are the objectives of plant breeding?

Watch Video Solution

4. Differentiate primary introduction from secondary introduction.

Watch Video Solution

5. Explain the Ewart method of seed storage.

Watch Video Solution

6. Define seed hardening.

Watch Video Solution

7. Add notes on seed hardening benefits.

Watch Video Solution

8. Differentiate the seed pelleting and seed coating.

Watch Video Solution

9. What are the modern plant breeding tools used to improve the crop varieties?

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10. Classify the seeds based on physiological behaviour.

Watch Video Solution

11. List out the pest resistant varieties of crops.

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12. Mention the role of IARI in biofortification.

Watch Video Solution

13. Explain the Biofortification in Sugar cane.

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14. What is domestication of plants?

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15. Disease resistant variety of Cowpea.

Watch Video Solution

16. Mention three advantages of using biofertilizers.

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17. What are the advantages of using Liquid Seaweed Fertilizer?

Watch Video Solution

18. What are Bio-pesticides?

Watch Video Solution

19. What is the note of Beauveria?

Watch Video Solution

20. What is plant introduction?

Watch Video Solution

21. What is the disadvantages of pureline selection?

 Watch Video Solution

22. Give two examples of plants breed for resistance to insect pests.

 Watch Video Solution

23. Mention two traditional methods of seed protection.

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24. What is Green Revolution?

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Additional Questions And Answers Long Answers

1. Define selection. Explain its types.

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2. Explain the steps in hybridisation.

Watch Video Solution

3. Explain the types of hybridisation

Watch Video Solution

4. Explain polyploid breeding.

Watch Video Solution

5. Explain the traditional methods of seed protection.

Watch Video Solution

6. Write notes on Seaweed Liquid fertilizer.

Watch Video Solution

7. Comment on Bio-pesticides.

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Unit Test

1. Pick out the odd pair.

A. Mass selection - Morphological characters

B. Pureline selection - Repeated self pollination

C. Clonal selection - Sexually propagated

D. Natural selection - Involves nature

Answer:

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Answer:

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B.

Variety	Resistance of disease
Pusa Sadabahar	White rust

C.

Variety	Resistance of disease
Pusa Shubhra	Chilli mosaic virus

D.

Variety	Resistance of disease
Brassica	Pusa swarnim

Answer:

Watch Video Solution

4. Crosses between the plants of the same variety are called

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B. inter varietal

C. intra varietal

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Answer:

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C. Clonal selection - Sexually propagated

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Answer:

Watch Video Solution

6. A strict isolation imposes to prevent the spread of disease is _____

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B. Hybridisation

C. Acclimatization

D. Qurantine

Answer:

Watch Video Solution

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B. I and II only

C. I, II and IV only

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Answer:

Watch Video Solution

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B. Bagging - Male and female plants

C. Crossing - Transfer of pollen grains

D. Harvesting - Raising Plants

Answer:

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13. How are microbial innoculants used to increase the soil fertility?

Watch Video Solution

14. Explain 2 conventional methods of seed protection.

Watch Video Solution

15. Explain use of seaweed as fertilizers.

Watch Video Solution