

BIOLOGY

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Plant Breeding

Example

1. Give definition for organic farming?



2. What is Azolla?



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3. What is AM?



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



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



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6. "Plant Breeding"



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7. What is modern plant breeing?



8. Define acclimatization.



9. What is quarantine?



10. What is primary introduction?



11. What is secondary introduction?



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12. What is natural selection?



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13. What is artificial selection?



14. Define mass selection.



15. What is pureline selection?



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16. What is hybridization?



17. Give an account on clonal selection.



18. Define Crosssing.



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19. Write a note on heterosis.



20. What is hybrid?



21. Define hybrid vigour.



22. What is genome editing?



23. Define agronomy.



24. Define anthesis.



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25. Define germplasm collection.



26. Define strain.



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27. Define non recurrent parent.



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28. What is pseudoheterosis?



29. Define-Economic botany.



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30. What is domestication of plants?



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31. What are biofertilizers.



32. Comment on Bio-pesticides.



33. Define green manuring.



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34. "Plant Breeding"



35. Define mutation.

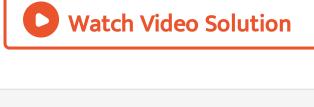


36. What are pyrenoids?



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37. Define Biofortification.



38. What is NBT?



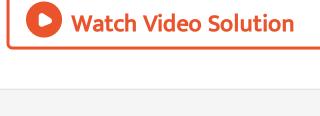
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39. What is plant introduction?

40. Comment on Parbharni kranti.



41. What is Green Revolution?



42. Define mutagenesis.



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43. What is selection.



44. Explain polyploid breeding.



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45. Differentiate primary introduction from secondary introduction.



46. Differentiate Rhizobium from Azolla as biofertilizers.



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47. What are the different types of hybridization?



48. Differentiate primary introduction from secondary introduction.



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



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



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



52. Write a note on heterosis.



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53. What is organic forming?



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54. What is Azolla?



55. What is AM?



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



Watch Video Solution

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



58. What is conventional plant breeding?



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59. What is modern plant breeing?



Watch Video Solution

60. Define acclimatization.



61. What is quarantine?



Watch Video Solution

62. What is primary introduction?



Watch Video Solution

63. What is secondary introduction?



64. List the types of selection.



65. What is natural selection?



Watch Video Solution

66. What is artificial selection?



67. Define mass selection.



Watch Video Solution

68. What is pureline selection?



Watch Video Solution

69. What is hybridization?



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Watch Video Solution

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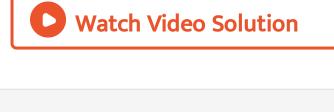
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77. Define agronomy.



Watch Video Solution

78. Define anthesis.



79. Define germplasm collection.



80. Define strain.



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81. Define non recurrent parent.



82. What is pseudoheterosis?



83. Define-Economic botany.



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84. What is domestication of plants?



85. What are biofertilizers.



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86. Mention the different types of biofertilizers.



87. write the concept of Alexander Von Humboldt on Agriculture.



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88. How can Darwin's evolutionary theory influence agriculture?



89. State the concept of Zhukovsky to agriculture.



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90. Name the domesticated crops to India.



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91. Name some phosphate solubilizing biofertilizers.



92. Comment on Bio-pesticides.



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93. Define green manuring.



94. Name the important plant species useful for green leaf manure.



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95. "Plant Breeding"



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96. Mutation



97. What are polyploids? Mention its nature.



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98. Define Biofortification.



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99. What is NBT?



100. ____ is the Father Green revolution.



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101. What is plant introduction?



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102. Name some introduced plant varieties and their natives.



103. Name some disease resistance varieties.



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104. Comment on Parbharni kranti.



105. Name the domesticated crops of Mediterranean.



106. Name the domesticated crops of China.



107. Write about Choudhary Ramdhan.



108. Factors which induce mutatiom.



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109. What is Green Revolution?



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110. Define mutagenesis.



111. What is selection.



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112. NBPGR stands for



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113. Write the disadvantages of intergeneric hybridization.



114. What are the roles of Arbuscular mycorrhizae in soil fertility?



115. Why are gene mutation considered as important in plant breeding?



116. Name few semi dwarf varieties of wheat and rice.



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117. List out the different methods of conventional breeding.



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118. What is intravarietal hybridization?





119. Write the possible changes in the plant.



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120. Write the contribution of Nikolai

Ivanovich Vavilov to agriculture.



121. Write short notes on organic agriculture.



122. Mention Indian plant breeders and their contributions.



123. Write notes on the symbiotic bacterium that resides inside the root nodules.



124. Write notes on intervarietal hybridization.



125. Write notes on interspecific hybridization.



126. Write notes on intergeneric hybridization.



127. Name a fern that fixes the atmospheric nitrogen and descibe it.



128. Write notes on Seaweed Liquid fertilizer.



129. Define green manuring.



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130. What are the objectives of plant breeding?



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131. Write a note on NBPGR.



132. Write notes on Gamma garden.



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133. Write notes on Norin 10.



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134. Write the objectives of biofortification.



135. List out the vegetable crops that are released by Indian Agricultural Research Institute.



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136. Write the disadvantages of mass selection and pureline selection.



137. Who coined the concept, "Agriculture originated independently in three different areas in different times or simultaneously"? Write notes about him.



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138. Draw a flow chart for mass selection Vs pureline selection.



139. Who devoted his life at the International maize and wheat improvement centre at Sonora in MeXIIco? Write notes about him.



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140. What are the qualities exhibited by polyploidy?



141. is one of the oldest methods of plants breeding.



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142. What is NBT?



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143. Explain the sequential development of plant breeding techniques with diagrams.

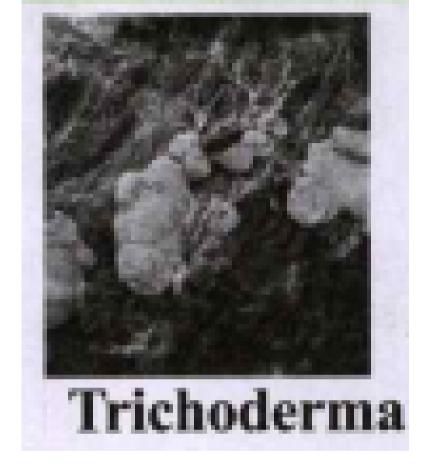


144. Which is an integral component of pest management? Describe it.



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145. Identify the figure given below and write a note about this.





146. Write notes on fungus which cause white muscardine disease on arthropods.



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147. Explain polyploid breeding.



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148. What is meant by autopolyploidy?



149. Describe allopolyploidy.



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150. Who was a disciple of Dr. Nammalvar?

Write his contibution on agriculture.





1. ⁻	The	quickest	method	of plant	breeding	is
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- A. Introduction
- **B.** Selection
- C. Hybridization
- D. Mutation breeding



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2. Dwarfing gene of wheat is

- A. pal 1
- B. Atomita 1
- C. Norin 10
- D. pelita 2



- **3.** Which of the following is incorrectly paired?
 - A. Wheat-Himgiri

- B. Milch-Sahiwal
- C. Rice-Ratna
- D. Pusa komal-Brassica



- **4.** Bagging is done to
 - A. Avoid cross pollination
 - B. Avoid self pollination

- C. Achieve desired pollination
- D. Prevent contamination from foreign pollen



- **5.** Polyploidy is induced through
 - A. Irradiaiton
 - B. Ethylene

C. Colchicine

D. Prophylene

Answer:



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6. What are the different types of hybridization?



7. Differentiate primary introduction from secondary introduction.



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

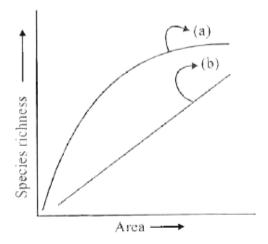


9. Define mass selection.



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10. A graph on species richness is given below.
Complete the equations (a) and (b) according to Alaxander von Humboldt.





11. What are the roles of Arbuscular mycorrhizae in soil fertility?



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



13. Write a note on heterosis.



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14. Write notes on Norin 10.



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15. Name a fern that fixes the atmospheric nitrogen and descibe it.



16. Write the objectives of biofortification.



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17. Explain the best integral component of pest management?



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18. Describe the pest management.

19. 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.



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20. 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



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21. 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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22. The quickest method of plant breeding is

- A. Introduction
- **B.** Selection
- C. Hybridization
- D. Mutation breeding



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

- A. Natural selection
- B. hybridization
- C. mutation
- D. biofertilisers



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

- A. clone
- B. haploid
- C. autopolyploid
- D. genome



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

- A. cloning
- B. heterosis
- C. selection
- D. introduction



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26. Dwarfing gene of wheat is

A. pal 1

B. Atomita 1

C. Norin 10

D. pelita 2

Answer:

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

A. interspecific

B. inter varietal

C. intra varietal

D. inter generic

Answer:



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28. 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:



29. Jaya and Ratna are the semi dwarf varieties of

A. wheat

B. rice

C. cowpea

D. mustard

Answer:



30. 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 of officinarum

B. Saccharum barberi and Saccharum officinarum

C. Saccharum sinese and Saccharum

D. Saccharum barberi and Saccharum robustum

Answer:



officinarum

(Corrsponding disease resistant variety) and

31. Match column I (crop) column II

select the correct option from the given codes.

Column I	Column II		
(I) Cowpea	(i) Himgiri		
(II) Wheat	(ħ) Pusa komal		
(III) Chilli	(iii) Pusa Sadabahar		
(IV) Brassica	(iv) Pusa Swarnim		

A. I-iv, II-iii, III-ii, IV-i

B. I-ii, II-i, III-iii, IV-iv

C. I-ii, II-iv, III-i, IV-iii

D. I-i, II-iii, III-iv, IV-ii

Answer:



32. 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:



33. Which of the following is incorrectly paired?

A. Wheat - Himgiri

B. Milch breed - Sahiwal

C. Rice - Ratna

D. Pusa Komal - Brassica

Answer:



34. Match list I with list II

List I	List II
Biofertilizer	Organisms
i) Free living N ₂	a) Aspergillus
ii) Symbiotic N ₂	b) Amanita
iii) P Solubilizing	c) Anabaena azollae
iv) P Mobilizing	d) Azotobacter

A. i-c, ii-a, iii-b, iv-d

B. i-d, ii-c, iii-a, iv-d

C. i-a, ii-c, iii-b, iv-d

D. i-b, ii-a, iii-d, iv-c

Answer:

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

Variety	Resistance to disease
a) Pusa Komal b) Pusa Sadabahar	Bacterial blight White rust
c) Pusa Shubhra	Chilli mosaic virus
d) Brassica	Pusa swarnim



36. Pioneer mutation breeder is

- A. Choudhary RamDhan
- B. Dr. M.S. Swaminathan
- C. Sir. T.S. Venkataraman
- D. Dr. K. Ramiah

Answer:



37. Which of the following is not used for crop improvement?

- A. Intravarietal hybridization
- B. Intravarietal hybridization
- C. Interspecific hybridization
- D. Intergeneric hybridization

Answer:



38. Crosses between the plants of the different genera are called

- A. Hybridization
- B. Selection
- C. Mutation breeding
- D. Introduction

Answer:



39.	Which	is	the	olo	dest	breed	ing	metho	d?
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- A. Irradiation
- B. Ethylene
- C. Colchinie
- D. Prophylene



40. Polyploidy is induced through

- A. Heterozygosity
- B. Homozygosity
- C. Homo and heterozygosity
- D. None of the above

Answer:



41. Pure line breed.

A. 1865

B. 1926

C. 1940

D. 1953

Answer:



42. Hybrid breeding started in

A. Sonalika

B. Jaya

C. Ratna

D. Pusa

Answer:



43. Which one is an improved variety of wheat?

A. Dr. BP. Pal

B. N. GP. Rao

C. Dr. K. Ramiah

D. C.T. Patel

Answer:



44. Cotton hybrid was developed by

- A. De Candolle
- B. Nicolai
- C. Alexander
- D. Harlan

Answer:



45. The concept of "centre of origin of cultivated plants was proposed by

A. South East Asia - Banana, Hemp

B. Central East - Pea, Cotton

C. The near East - Rye, Tropical fruits

D. Ethiopia - Potato, Carrot

Answer:



46. Which of the following is incorrectly paired?

A. i-D, ii-A, iii-B, iv-C

B. i-B, ii-C, iii-A, iv-D

C. i-c, ii-D, iii-A, iv-B

D. i-C, ii-B, iii-A, iv-D

Answer:



47. Match the column I with column II

Column I	Column II
i) Trichoderma	- A. Biofertilizer
ii) Kelp	- B. Biopesticide
iii) Azolla	- C. Liquid Fertilizer
iv) Cassia fistula	- D. Green leaf manure

- A. Clonal selection
- B. Mass selection
- C. Hybridization
- D. Pure line selection

Answer:



Makab Wides Caladian

48. Rhizobium increases the yield of paddy by

A. Rhizobium

B. Azolla

C. Beauveria

D. Arbuscular mycorrhizae

Answer:



49. Match the column I with column II

Column II
- A. 1940
- B. 1994
- C. 1865
- D. 1926

A. i-C, ii-A, iii-D, iv-B

B. i-B, ii-D, iii-B, iv-A

C. i-C, ii-D, iii-B, iv-A

D. i-A, ii-B, iii-D, iv-C

Answer:



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

- A. Mutagenesis
- B. Targeted breeding
- C. Marker assisted selection
- D. Cross breeding

Answer:

51. A plant introduced with foreign gene.

- A. GMO
- B. Hybrid
- C. Breed
- D. Selection

Answer:



52. Development of improved varieties by working directly with DNA is

A. Plant breeding based on genetic information

B. Plant breeding based on mutation

C. Plant breeding based on hybridization

D. Plant breeding based on selection

Answer:



53. Targeted breeding involves

- A. Selection
- B. Mutagenesis
- C. Genome editing
- D. Hybridization

Answer:



54. Assertion: The newly introduced plant has to adapt itself to the new environment.

Reason: Introduced plant has to be carefully examined by the process called acclimatization.

- 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:



55. Pusa komal- a variety of cowpea, is resistant to

A. Leaf rust

B. Bacterial blight

C. Black rot

D. White rust

Answer:



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56. Pusa swarnim variety of Brassica species show resistance to

A. Hill bunt

B. Curl blight

C. Chilly mosaic

D. White rust

Answer:



57. Semi dwarf rice IR8 was developed in

A. India

B. Taiwan

C. China

D. Philippines

Answer:



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

A. MeXIIco

B. China

C. North East India

D. Kolkata

Answer:



59. Sonalika' and 'Kalyan Sona'[are high yielding varieties of

- A. Rice
- B. Wheat
- C. Maize
- D. Sugarcane

Answer:



60. The adjustment of the introduced plant in
the changed environment

- A. Domestication
- **B.** Acclimatization
- C. Quarantine
- D. Selection



61. Who coine	d the word	pureline :	selection?
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- A. Johannsen
- B. T.S. Venkataraman
- C. De Candolle
- D. Nicolai



62. Which one of the following is an example for interspecific hybridization?

A. Triticum durum and Secale cereale.

B. Brassica oleraceae and Raphanus sativus

C. Saccharum barberi and Saccharum officinarum

D. Gossypium hirsutum and Gossypium arboreum

Answer:



63. G.H. Shull was the first scientist to use the term heterosis in the year......

A. 1910

B. 1912

C. 1914

D. 1916

Answer:



64. The term mutation was coined by_____in1901.

A. Muller and Stadler

B. William S. Gaud

C. M.S. Swaminathan

D. Dr. N.E. Borlaug

Answer:



65. Triticale is an example of

- A. Auto polyploids
- B. Allopolyploidy
- C. Euherterosis
- D. Pseudoheterosis

Answer:



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bb.	(₁ reen	revolu	tion	scheme	hegan	ın
•••	U. CC			561161116	259411	•••

- A. India
- B. China
- C. MeXIIco
- D. America



67. The former director of IARI

- A. Mohapatra
- B. Dr. B.P. Pal
- C. Dr. N.E. Borlang
- D. William S. Gaud

Answer:



68. Who is popularly called as the "father of green revolution in India"?

A. M.S. Swaminathan

B. Dr. K. Ramiah

C. C.T. Patel

D. Dr. B. P. Pal

Answer:



69. When was semi dwarf wheat of Mexico introduced in India?

- A. 1950
- B. 1953
- C. 1963
- D. 1973

Answer:



70. Which one of the following is semi dwarf fertilizer responsive hybrid variety of rice?

- A. IR8
- B. Jaya
- C. Ratna
- D. TN1

Answer:



71. Which one is first semi dwarf rice variety?
A. Taichung Native - 1
B. Ratna

C. Sonora

D. Himgiri

Answer:



72. Which one of the following is resistance to yellow mosaic virus?

- A. Prabhani Kranti
- B. Pusa Gaurav
- C. Pusa Sem
- D. Himgiri

Answer:



73. Match the following and select the correct option

i. Hairy leaves
ii. Brassica
iii. Okra
- A. Mustard
- B. Bhindi
- C. Resistance to
Mosaic virus
- D. Resistance to
insect

A. i-C, ii-A, iii-D, iv-B

B. i-D, ii-A, iii-B, iv-C

C. i-D, ii-B, iii-a, iv-C

D. i-C, ii-A, iii-D, iv-B

Answer:

74. IRRI stands for

- A. Indian Rice Research Institute
- B. Indian Rye Research Institute
- C. International Rice Research Institute
- D. International Rye Research Institute

Answer:



75. Which of the following variety has poor sugar content and yield?

- A. Saccharum barberi
- B. Saccharum officinarium
- C. Saccharum sinese
- D. Saccharum robustum

Answer:



76. Th	e new	varieties	of p	lants	are	produced	by
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- A. Introduction
- **B.** Mutation
- C. Hybridization
- D. Selection



77. Bagging is done to

- A. Avoid cross pollination
- B. Avoid self pollination
- C. Achieve desired pollination
- D. Prevent contamination from foreign pollen

Answer:



78. Dwarf wheats were developed by
A. Vavilov
B. Borlaug
C. Swaminathan
D. None of these



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79. The main aim of plant breeding is

A. To produce improved varieties
B. To make soil fertile
C. To control pollination
D. To become more progressive
Answer:
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80. Breeding crops for improving nutritional quality

- A. Bio fertilization
- B. Bio remediation
- C. Bio fortification
- D. Bio information



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81. NBPGR stands for

A. National Breeding of Plant Genetic Resources B. National Bureau of Plant Genome Research C. National Bureau of Phyto Genome Research D. National Bureau of Plant Genetic Resouces. **Answer: Watch Video Solution**

82. Assertion: One of the main objectives of the green manuring is to increase the content of nitrogen in the soil.

Reason: Green in-situ manuring refers to the growing of green manuring crops in the border rows.

- 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:



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83. Beauveria is a

- A. Alga
- B. Fungus
- C. Bacterium
- D. Virus



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84. Who was awarded a Nobel prize for peace in 1970?

- A. Norman E Borlang
- B. M.S. Swaminathan
- C. Nel Jayaraman
- D. Dr. B. P. Pal



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85. Which is not a conventional method of breeding?

- A. Hybridization
- B. Mutation breeding
- C. Somatic hybridization
- D. Pure line selection



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86. Identify the conventional method of plant breeding.

- A. Genetic engineering
- B. Mass selection
- C. Tissue culture
- D. DNA finger printing

