



BIOLOGY

BOOKS - MBD

STRATEGIES FOR ENHANCEMENT IN FOOD PRODUCTION

Example

1. Define animal husbandry.



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2. How many breeds of cattle are there in India?



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3. Define the term livestock.



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4. What is white revolution? Name two high milk yielding crossbreeds of cows.



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5. Define artificial insemination. What is the significance of this method ?



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6. Name two high yielding cross breeds of fowls.



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7. What is importance of a good feed in the poultry?



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8. List the products obtained from bee keeping.



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9. What is inter-varietal crop rotation?



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10. What is agronomy?



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11. What is green revolution ?



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12. Name the improved variety of wheat that is developed through hybridisation that took 12 years.



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13. What is an inbred line?



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14. Name two lysine - rich varieties of maize.



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15. Name two growth regulators commonly used in plant tissue culture.



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16. What is an explant ?



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17. Explain the term : Somaclonal variations



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18. What is somatic embryo?



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19. What characters should be present in improved seed?



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20. Who started the technique of plant tissue culture?



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21. Briefly explain : Somatic Hybridisation



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22. Explain what is meant by 'Biofortification?'



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23. What is single cell protein? Write its advantages.



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24. Give example of some microorganisms working for SCP.



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25. What is the economic value of Spirulina?



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26. What is plant introduction?



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27. Explain the role of animal husbandry in human welfare.



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28. If your family owned a dairy farm, what measures would you undertake to improve the quality and quantity of milk production.



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29. What is meant by the term 'breed'? What are the objectives of animal breeding?



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30. Name the methods employed in animal breeding. According to you which of the methods is best? Why?



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31. What is apiculture? How is it important in our lives?



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32. Discuss the role of fishery in enhancement of food production.



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33. Briefly describe the various steps involved in plant breeding.



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34. What is importance of biofortification?



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35. Which part of the plant is best suited for making virus free plants and why?



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36. What is the major advantage of producing plants by micropropagation?



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37. why are the various components of the medium used for propagation of an explant in vitro?



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38. Name any five varieties of crop plants which have been developed in India.



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39. Millions of chickens were killed in West Bengal, Odisha and Maharashtra recently .
What was the reason?



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40. Can gamma rays used for crop improvement programmes prove to be harmful for health? Discuss.



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41. In animal husbandry, if two closely related animals are mated for a few generations, it results in loss of fertility and vigour. Why is it so?



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42. In the area of plant breeding , it is important not only to preserve the seeds of the variety being cultivated, but also to preserve all its wild relatives. Explain with a suitable example.



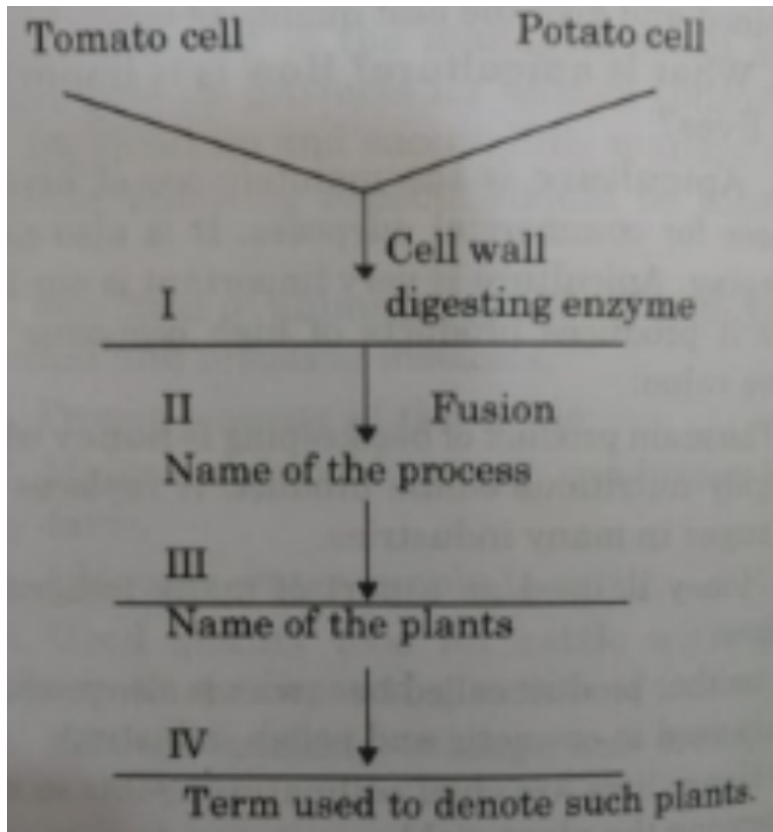
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43. Do you know of a man made cereal? Trace, how it was developed?



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44. Fill in the blank



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45. A few statements are given below followed by a set of terms in a box. Pick the correct term and write it against the appropriate statement.

Mating of closely related individuals within the same breed.

(i) cross breeding , (ii) Inter-specific hybridization, (iii) Out breeding ,(iv) Out crossing, (v) Inbreeding



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46. A few statements are given below followed by a set of terms in a box. Pick the correct term and write it against the appropriate statement.

mating of animals of same breed but having no common ancestors in either side for 4-6 generations

(i) cross breeding , (ii) Inter-specific hybridization, (iii) Out breeding ,(iv) Out crossing, (v) Inbreeding



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47. A few statements are given below followed by a set of terms in a box. Pick the correct term and write it against the appropriate statement.

mating of animals of two different species.

(i) cross breeding , (ii) Inter-specific hybridization, (iii) Out breeding ,(iv) Out crossing, (v) Inbreeding



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48. A few statements are given below followed by a set of terms in a box. Pick the correct term and write it against the appropriate statement.

mating of animals of two different species.

(i) cross breeding , (ii) Inter-specific hybridization, (iii) Out breeding ,(iv) Out crossing, (v) Inbreeding



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49. What is meant by 'hidden hunger'?



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50. Why are plants obtained by protoplast culture called somatic hybrid?



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51. Why is it easier to culture meristems compared to permanent tissues?



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52. Why are proteins synthesised from Spirulina called single cell proteins?



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53. A person who is allergic to pulse was advised to take a capsule of Spirulina daily. Give the reasons for the advice.



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54. What is aquaculture? Give example of an animal that can be multiplied by aquaculture.



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55. What are the duties of a veterinary doctor in management of a poultry farm?



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56. Would it be wrong to call plants obtained through micro-propagation as 'clones'?

Comment.



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57. How is a somatic hybrid different from a hybrid?



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58. What is meant by emasculation? When and why a plant breeder employ this technique?



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59. Discuss the two main limitations of plant hybridization programme.



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60. Interspecific crosses are rare in nature and intergeneric crosses almost unknown. Why?



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61. Differentiate between Pisciculture and Aquaculture.



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62. Give two important contributions of Dr. M. S. Swaminathan .



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63. The term 'describe trait' can mean different things for different plants. Justify the statement with suitable examples.



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64. You are planning to set up a dairy farm. Describe the various aspects you would consider before you start the venture.



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65. It is said that diseases are spreading faster due to globalisation and increased movement of people . Justify the statement taking the example of H_5N_1 virus.



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66. Explain the concept of Blue Revolution.



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67. A farmer was facing the problem of low yield from his farm. He was advised to keep a beehive in the vicinity. Why? How would the beehive help in enhancing yield?



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68. Life style diseases are increasing alarmingly in India. We are also dealing with large scale malnutrition in the population. Is there any method by which we can address both of these problems together?



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69. How can we improve the success rate of fertilisation during artificial insemination in animal husbandry programmes?



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70. What is meant by germplasm collection?

What are its benefits?



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71. name the improved characteristics of wheat that helped India to achieve green revolution.



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72. Suggest two features of plants that will prevent insect and pest infestation.



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73. It is easier to culture plant cells in vitro as compared to animal cells. Why?



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74. The culture medium (nutrient medium) can be referred to as a 'highly enriched laboratory

soil'. Justify the statement.



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75. Is there any relationship between dedifferentiation and the higher degree of success achieved in plant tissue culture experiments?



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76. "Give me a living cell of any plant and I will give you a thousand plants of the same type". Is this only a slogan or is it scientifically possible? Write your comments and justify them.



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77. What is the difference between a "breed" and a "species"? Give an example for each category.





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78. Define the term 'stress' for plants, Discuss briefly the two types of stress encountered by plants.



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79. Plants raised through tissue culture are clones of the 'parent' plant. Discuss the utility of these plants.



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80. Define the term 'stress' for plants, Discuss briefly the two types of stress encountered by plants.



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81. Discuss natural selection and artificial selection. What are implications of the latter on the process of evolution?



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82. Discuss briefly how pure lines are created in animal husbandry?



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83. Examples of biofortified crops. What benefits do they offer to the society?



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84. What are the physical barriers of a cell in the protoplast fusion experiment? How are the barriers overcome?



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85. The shift from grain to meat diets creates more demands for cereals. Why?



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86. A 250 kg cow produces 200 g of protein per day but 250 g *Methylophilus methylotrophus* can produce 25 tonnes of protein. Name this emerging area of research. Explain its benefits.



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87. What are the advantages of tissue culture methods over conventional methods of plant breeding in crop improvement programmes?





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88. "Modern methods of breeding animals and plants can alleviate the global food shortage".

Comment on the statement and give suitable examples.



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89. The chances of contacting bird flu from a properly cooked (about $100^{\circ}C$) chicken and egg are:

A. very high

B. high

C. moderate

D. None

Answer:



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90. A group of animals which are referred to as :

A. breed

B. race

C. variety

D. species

Answer:



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91. Inbreeding is carried out in animal husbandry because it:

A. increasesn vigour

B. improves the breed

C. increases heterozygosity

D. increases homozygosity

Answer:



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92. Which one of the following is a marine fish:

A. rohu

B. hilsa

C. catla

D. common carp

Answer:



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93. Which one of the following products of apiculture is used in cosmetics and polishes?

A. Honey

B. Oil

C. Wax

D. Royal jelly

Answer:



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94. More than 70 percent of livestock population is in:

A. Denmark

B. India

C. China

D. India and China

Answer:



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95. The agriculture sector of India employs:

A. 60 percent of the population

B. 70 percent of the population

C. 30 percent of the population

D. 62 percent of the population

Answer:



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96. 33 percent of India's (Gross Domestic Product) comes from:

A. Industry

B. Agriculture

C. Export

D. Small -scale cottage industries.

Answer:



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97. Sonalika and Kalyan Sona are varieties :

A. wheat

B. rice

C. millet

D. tobacco

Answer:



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98. Which one of the following is not a fungal disease?

- A. Rust of wheat
- B. Smut of Bajra
- C. Blak rot of crucifers
- D. Red rot of sugarcane

Answer:



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99. In virus- inflected plants the meristematic tissues in both apical and axillary buds are free of virus because:

- A. the dividing cells are virus resistant
- B. meristems have anti viral compounds
- C. the cell division of meristems are faster than the rate of viral multiplications

D. viruses cannot multiply within meristem
cell

Answer:



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100. Several South Indian states raises 2-3 crops of rice annuallyt . The agronomic feature that makes this possible is because of

A. shorter rice plant

B. better irrigation facilities

C. early yielding rice variety

D. disease resistant rice variety

Answer:



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101. Which one of the following combination would a sugarcane farmer look for in the sugarcane crop?

- A. Thick stem, long internodes, high sugar content and disease resistant
- B. Thick stem, high sugar content and profuse flowering
- C. Thick stem, short internodes, high sugar content , disease resistant
- D. Thick stem, low syugar content, disease resiatant

Answer:



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102. Fungicides and antibiotics are chemicals that:

A. enhance yield and disease resistance

B. kill pathogenic fungi and bacteria, respectively

C. kill all pathogenic microbes

D. kill pathogenic bacteria and fungi respectively.

Answer:



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103. Use of certain chemicals and radiation to change the base sequences of genes of crop plants is termed:

- A. recombinant DNA technology
- B. transgenic mechanism
- C. mutation breeding
- D. inbreeding

Answer:



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104. The scientific process by which crop plants are enriched with certain desirable nutrients is called:

A. crop protection

B. breeding

C. biofortification

D. bio-remediation

Answer:



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105. The term 'totipotency' refers to the capacity of a

- A. cell to generate whole plant
- B. bud to generate whole plant
- C. seed to germinate
- D. cell to enlarge in size

Answer:



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106. Given below are a few statements regarding somatic hybridization. Choose the correct statement.

A. Protoplasts of different cells of the same plant are fused

B. Protoplasts from cells of different species can be fused

C. Treatment of cells with cellulase and pectinase is mandatory

D. The hybrid protoplast contains characters of only one parental protoplast.

Answer:



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107. An explant is :

A. dead plant

B. part of the plant

C. part of the plant used in tissue culture

D. part of the plant that expresses a
specific gene

Answer:



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108. What is artificial selection? How man has employed to obtain new varieties of plants and animals?



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109. Give one example of each of indigenous and exotic milch breeds of cow.



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110. Name some indigenous and exotic breeds of fowls.



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111. What are main advantages of cross-breeds of fowls over indigenous breeds?



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112. What is the importance of MOET.



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113. Name the variety of wheat , which is resistant to leaf stripe rust and hill bunt.



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114. Name the variety of brassica, which is resistant to white rust.



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115. Name two plants which have been produced by artificial selection.



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116. Name any two diseases the 'Himgiri' variety of wheat is resistance to



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117. How are the following two varieties of sugarcane different from each other?

Sacharum barberi

Saccharum officinarum.



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118. How to meet the needs of ever increasing population of our country? List two main steps.



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119. How human beings depend upon plants and animals for nutrition?



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120. What is farming ? Define it with suitable examples.



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121. List the main elements of animals husbandry.



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122. Why is animal husbandry essential?



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123. What are objectives of animal breeding?



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124. Why is cow milk yellow as compared to buffalo milk?



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125. Why is buffalo milk preferred? Define live stock.



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126. What is dairy management? List four essential methods of livestock improvement.



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127. List some Indian breeds of cows and buffaloes.



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128. List of characters of a good animal shelter.



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129. "Milk is a very nutritious food." Justify the statement.



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130. Name two exotic breeds of cows.



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131. Mention the improved cross breeds of
COWS.



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132. List some Indian breeds of cows and
buffaloes.



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133. How is inbreeding advantageous as well as disadvantageous in cattle breeding programme?



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134. Explain natural breeding of livestock.



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135. How does selective breeding help to improve animals in terms of yield and disease resistance?



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136. How is cross breeding useful in cattle?



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137. Briefly explain contribution of Dr. V. Kurien.



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138. Mention the advantages of artificial insemination.



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139. What is superovulation and embryo transfer?



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140. Expand MOET. Explain the procedure of this technology in cattle improvement.



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141. Define artificial insemination.



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142. Why is artificial insemination considered best method for improving the cattle breed?





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143. Write two infectious diseases of each of cows, poultry and fishes.



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144. Why cross breeds are more advantageous over indigenous breeds ?



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145. Discuss the importance of poultry as a source of food.



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146. Name some indigenous and exotic breeds of fowls.



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147. List two advantages of exotic breeds over indigenous breeds.



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148. What determines good quality of eggs?



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149. Mention the percentages of proteins content in the milk, egg and fish.



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150. Write full form of VHS.



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151. Write a note on bird flu.



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152. Write preventive measures against bird flu.



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153. Write a note on Fisheries.



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154. Why is fish meat considered advantageous than meat of other animals ?



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155. Give the economy of fishes.



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156. Give the functions of followings in fishery :

Hapas



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157. Give the functions of following in fishery.:

Nursery ponds



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158. Give the functions of following in fishery.:

Traps



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159. Differentiate capture fishery and culture fishery.



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160. Differentiate aquaculture and pisciculture.





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161. List the steps of fish seed production by induced breeding techniques.



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162. What are advantages of culture fishery?



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163. What are the uses of honey?



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164. Write the components of honey.



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165. Why does a beekeeper keep beehives in crop fields during the flowering periods? State any two advantages.



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166. Honey collection improves when beehives are kept in crop fields during flowering periods? Explain.



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167. How are honeybees affected by different factors ?



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168. What is horticulture ? Give in a tabulated form some horticulture crops.



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169. List three scientific approaches to obtain high yield of crops.



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170. What is Plant Breeding?



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171. list the main step of plant breeding.



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172. Name any five hybrid varieties of crop plants which have been developed in India.



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173. What are intervarietal and interspecific hybridisations?



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174. Write the aim of plant breeding.



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175. List the features in wild plants selected by man for his own benefit.



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176. What are objectives of animal breeding?



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177. Explain line, parents and pure line.



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178. what is hybrid? Explain the procedure of obtaining a hybrid



Watch Video Solution

179. What are intervarietal and interspecific hybridisations?



Watch Video Solution

180. Give a few examples of crop varieties with increased nutritional qualities.



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181. Explain Inbreeding depression.



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182. Differences between inbreeding and outbreeding in cattle, state one advantage

and one disadvantage for each one of them.



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183. Briefly explain : Mutation breeding in plants



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184. List the practical application of mutation breeding.



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185. Briefly explain the mutagens commonly used in mutation breeding .



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186. What are limitations of mutation breeding?



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187. Show the development of disease.



Watch Video Solution

188. How is a disease -resistant plant selected for successful breeding?



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189. How is an allopolyploid produced? Explain with an example.



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190. Write short notes on polyploidy and autopolyploidy.



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191. Expand SCP . What are their uses?



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192. Define Callus.



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193. Define the following terms :

Hetrokaryon



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194. Define the following terms :

Tumour



[Watch Video Solution](#)

195. Define the following terms :

Somatic



[Watch Video Solution](#)

196. Give a brief account of cultivation of sugarcane and millets .



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197. Give a list of crop varieties that are resistant to disease raised by selection and hybridisation.



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198. Give a list of plant varieties developed recently that are resistant to pests.



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199. What is Tissue Culture? Briefly explain list the advantages of micropropagation.



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200. Name any two common Indian millet crops. State one characteristic of millets that has been improved as a result of hybrid breeding as to produce high yielding millet crops.



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201. Enumerate four objectives for improving the nutritional quality of different crops for the health benefits of the human population by the process of "Biofortification."



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202. Why are the plants raised through micropropagation termed as somaclones?



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203. Explain what cause chill in human during malarial attack? Name the causative organism of malignant malaria?



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204. Name any two fowls other than chicken reared in poultry farm.



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205. Enlist four important components of poultry farm management.



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206. Explain why secondary immune response is very quick and intense ?



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207. State the disadvantages of inbreeding among cattle. How it can be overcome?



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208. What are congenital diseases/genetic disorders?



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209. Give the names of variety that are resistant to pests development by hybridisation and selection of

Okra



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210. Give the names of variety that are resistant to pests development by hybridisation and selection of

Brassica





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211. Give the names of variety that are resistant to pests development by hybridisation and selection of Flat bean.



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212. Discuss advantages of poultry farming.



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213. Write a brief account of procedure of Inland Fishery.



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214. Discuss the role of plant tissue culture in increasing food production.



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215. "Plant breeding technique has helped sugar industry in North India" Explain.



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216. Explain the process of artificial hybridisation to get improved crop variety in (i) plants bearing bisexual flowers (ii) female parent producing unisexual flowers.



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217. Mention the property that enable the explants to regenrate into a new plant.



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218. A banana herb is virus-infected. Describe the method that will help in obtaining healtrhy banana plants from this deseased plant.



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Exercise

1. Lysine and tryptophan are :

- A. protiens
- B. non-essential amino acids
- C. essintial amino acids
- D. aromatic and no acids.

Answer:



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2. Micro-propagation is:

A. propagation of microbes in vitro

B. propagation of plants in vitro

C. propagation of cells in vitro

D. growing plants on smaller scale

Answer:



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3. Name two plants which have been produced by artificial selection.



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4. Why are plants obtained by protoplast culture called somatic hybrid?



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5. If your family owned a dairy farm, what measures would you undertake to improve the quality and quantity of milk production.



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6. MOET programme has helped in increasing the herd size of the desired variety of cattle. List the steps involved in conducting the programme.



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7. What is meant by breed? List objectives of animal breeding .



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8. Differentiate infection and infestation .



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9. What is the major advantage of producing plants by micropropagation?



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10. Name three common fresh water and three marine food fishes.



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11. Name the improved characteristics of wheat that helped to achieve green revolution.



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12. Examples of biofortified crops. What benefits do they offer to the society?



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13. Write a short note on natural killer cells?



Watch Video Solution

14. Explain the role of animal husbandry in human welfare.



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