BIOLOGY

BOOKS - SHARAM PUBLICATION

GENETICS AND EVOLUTION

Exercise

1. The study of heredity and variation of organisms is called

A. morpholgoy

B. cytology

C. genetics

D. evolution

Answer:

2. Who is the called the father of genetics.

A. Darwin

B. Mendel

C. Morgan

D. De vries

Answer:

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3. The experimental plant material used by Mendel was :

A. Garden Pea

B. Chick Pea

C. Sweet Pea

D. Coco Pea

Answer:

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4. What is the genotypic ratio in F_2 OF Mendelian monohybrid cross?

A. $3:1$

B. $1:1$

C. $2:1$

D. $1:2:1$

Answer:

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5. The offsprings in the first generation is called

A. F_2

B. F_0

C. P_1

D. F_1

Answer:

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6. Which is the character not taken by Mendel in his experiments?

A. Height of the plant

B. Shape of the leaves

C. Seed colour

D. Seed shape

Answer:

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7. A cross between hybrid with a double recessive pure plant is called _____

A. Test cross

B. Self cross

C. dihybrid cross

D. Polyhybrid cross

Answer:

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8. How many types of genotypes will be there F2 generation of monohybird cross?

A. 4

B. 3

C. 2

D. 1

Answer:

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9. In which case is the half of the offsprings recessive type?

A. $Tt \times$

B. ⊤ × ⊤

C. ⊤ ×

D. ×

Answer:

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10. Which is an incorrect statement?

A. An allele in altelrnate forms gene

B. An allele is alternate forms of one characters.

C. Genes located in the same locus of two sister chromosomes are alleles.

D. Both alleles are transferred from one parent to its offspring.

Answer:

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11. F_1 plants inmonohybrid cross are

A. heterozygous

B. homozygous

C. hemizygous

D. heterologous

Answer:

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12. In Mirabilis jalapa, when red flowered plants are crossed with white flowered ones, the offsprings were pink. It is the case of

A. Complete dominance

B. Incomplete

C. Segregation

D. Codominace.

Answer:

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13. In dihybrid cross of round yellow and wrinkled green seeds of Pea plants. What is the ratio of round to wrinkled in F_2 generation?

A. $3:1$

B. $1:2:1$

C. $9:3:3:1$

D. $1:1$

Answer:

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14. Which one does represent a pair of contrasting characters?

A. homozygous

B. phenotypes

C. co-dominance

D. heterozygous

Answer:

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15. A character which does not express itself is called

A. dominant

B. co-dominant

C. Incomplete dominant from F_1 hybrid

D. recessive

Answer:

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16. How many type of gametes may be formed form F_1 hybrid where two pairs of contrasting characters are taken in the dihybrid corss experiment?

A. 1

B. 2

C. 3

D. 4

Answer:

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17. A plant with Rr genotype is crossed with a plant with rr genotype, the ratio of Rr and rr genotypes will be____in the next progeny.

A. $1:1$

B. $3:1$

C. $9:3:3:1$

D. $1:1:1:1$

Answer:

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18. In co-dominance of the human blood group, which one is a recessive gene?

A. A

B. B

C. O

D. AB

Answer:

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19. A gene controlling more than one character is called

A. dominant

B. recessive

C. co-dominance

D. pleiotropy

Answer:

20. Distinguish between:Incomplete dominance and co-dominance

A. gene pair is hetrozygous

B. None of the genes are dominant

C. None of the genes are recessive

D. Quantitative expresion occurs.

Answer:

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21. A cross between two pure forms of black feathered and white feathered fowl resutled in F_1 hybrid with blue featherd one. Under which type can this be placed?

A. Co-dominace

B. Incomplete dominance

C. law of dominance

D. law of segregation

Answer:

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22. Which one is an exception to mendelism

A. independent assortment

B. dominance

C. Segregation

D. linkage

Answer:

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23. Which one was proposed by mendel from dihybrid cross?

A. law of segregation

B. law of independent assortment

C. law of incomplete dominance

D. law of domiances

Answer:

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24. Which type of blood group is called universal donor?

A. O

B. A

C. AB

D. B

Answer:

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25. Which of the following is not applicable to the phenomenon of adsorption?

A. Single gene effect visible

B. discontinuous variation

C. kind of character

D. degree of character

Answer:

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26. An organism with two identical characteristics is known as

A. dominant

B. hybrid

C. homozygous

D. hetero zygous

Answer:

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27. Griffith coined the term 'gene' for Mendelian factor

A. Correns

B. Johannsen

C. Bovery

D. Morgan

Answer:

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28. Which one is the basis of origin of continuous variation?

A. Multipe gene

B. co-dominant genes

C. Pleitorpy

D. dominant gene

Answer:

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29. Which one does show quantitatve inheritance?

A. Law of dominances

B. Incomplete dominance

C. Independent assortment

D. Polygenic inheritance.

Answer:

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30. Which one does not show linkage?

A. genes coupled

B. genes that assort independently

C. genes not present in same chromosome

D. Traits present on separate homolgous seats.

Answer:

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31. Which one does not occur due to crossing due?

A. Chromosome undergo pairing

B. One gamete formed having normal parental chromosome

C. Both the gametes have normal parental chromosome

D. Other gamets recombine

Answer:

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32. The degre of differencees among the offsprings and between the offsprings and parents is known as

A. Genetics

B. Heredity

C. Variation

D. None of the above

Answer:

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33. Mendel choose 'Pisum sativum as material for his classical experiment.

A. As the plant is annual and short life cycle helps to study several generation.

B. Sharply visible seven paris of contrasting characters are found.

C. Flowers are bisexual and self pollinated

D. None of the above

Answer:

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34. Correct the statements if required, by changing the underlined portions only

The science of heredity and evolution is called genetics.

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35. Correct the statements if required, by changing the underlined protions only

The external manifestation of a transmitted character is called genotype.

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36. Correct the statements if required, by changing the underlined protions only

Mendel did monohybrid cross experiments with two paris of contrasting characters.

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37. Correct the statements if required, by changing the underlined protions only

Linnaeus is called the father of genetics.

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38. Correct the statements if required, by changing the underlined protions only

Mendel chose 5 pairs of contrasting characters in his experiments.

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39. Correct the statements if required, by changing the underlined protions only

Mendel's law of segregation is based on transmission characters F_1 generation.

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40. Correct the statements if required, by changing the underlined protions only

In Mendel's monohyrbrid cross, 2 genotypes were observed in F_2 generation.

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41. Correct the statements if required, by changing the underlined protions only

Transmission of characters from parents to offsprings is called variation.

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42. Correct the statements if required, by changing the underlined portions only

Mendel's experimental material was wheat plants.

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43. Correct the statements

The allele that expresses itself only when it is in homozygous condition is called dominant.

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44. Correct the statements if required, by changing the underlined protions only

Allelomorphs or alleles indicate identical charactes.

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45. Correct the statements if required, by changing the underlined protions only

Offsprings produced by two parents with one pair of contrasting character is called cybrid.

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46. Correct the statements if required, by changing the underlined protions only

Back cross is done to know the genotype of the dominant phenotype.

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47. Correct the statements if required, by changing the underlined protions only

Back cross is done betweeen F_1 hybrid and any one of the homozygous offsprings.

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48. Correct the statements if required, by changing the underlined protions only

There will be 3 types of phenotypes in dihybrid cross.

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49. Correct the statements if required, by changing the underlined protions only

Purple flowers from a cross between red and white flowered plants is called paternal dominance.

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50. Correct the statements if required, by changing the underlined protions only

To express co-dominance, both the characters of a gene pair is homozygous.

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51. Correct the statements if required, by changing the underlined protions only

The mutation which eliminates a gene is called silent mutation.

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52. Correct the statements if required, by changing the underlined portions only

In AB blood type both factors are co-dominant.

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53. Correct the statements if required, by changing the underlined protions only

For quantitative evaluation, principle of incomplete irheritance is an example.

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54. Correct the statements if required, by changing the underlined protions only

When one gene express more than one phenotypic trait, it shows polygenic inheritance.

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55. Correct the statements if required, by changing the underlined portions only

Phenylketonuria is caused by deficiency of phenyl alanine oxidase.

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56. Correct the statements if required, by changing the underlined protions only

Sutton and Boveria proposed genetic basis of inheritance.

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57. Correct the statements if required, by changing the underlined protions only

Correns discovered genes in 1909.

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58. Correct the statements if required, by changing the underlined protions only

Crossing over takes place during mitosis.

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59. Correct the statements if required, by changing the underlined protions only

Crossing over takes place between daughter chromosomes during meiosis.

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60. Correct the statements if required, by changing the underlined protions only

Genetype is observable characters of an individual.

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61. Answer the following question in one word only.

Transmission of characters from parents to offsprings is called

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62. Answer the following question in one word only.

The genetic make up of an organisms.

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63. Answer the following question in one word only.

The morophological expression of genetic makeup of an organism.

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64. Answer the following question in one word only.

What is called to the condition in an organism with homologous chromosomes?

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65. Answer the following question in one word only.

What is the unit of inheritance?

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66. Answer the following question in one word only.

Who did experiments on pea plants to propose first the laws of ineheritance?

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67. Answer the following question in one word only.

On which plant did Mendel perform experiments?

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68. Answer the following question in one word only.

What is called to alternate forms of the same character?

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69. Give one word answer:

How many pairs of contrasting characters in

pea plants were studied by Mendal in his experiments?

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70. Answer the following question in one word only.

What is called to the condition where an organism has different alleles on homologous loci of chromosome.

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71. Answer the following question in one word only.

What is called when F_1 pollens are pollinated in the stigma of the same flower?

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72. Answer the following question in one word only.

What is called to the cross with single pair of contrasting characters?

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73. Answer the following question in one word only.

A gene that expresses itself is called.

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74. Answer the following question in one word only.

A gene that remains eclipsed but expresses when dominant gene is not there is called.

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75. Answer the following question in one word only.

A cross between F_1 bybrid and either of the homozygous parents.

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76. Answer the following question in one word only.

A dominant phenotype with unknown

genotype when crossed with a recessive individual, the cross is called

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77. Answer the following question in one word only.

What type of dominance is seen in pink flowers of mirabilis jalapa?

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78. Answer the following question in one word only.

How many types of genotypic expression is seen in F_2 generation oif dihybrid cross?

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79. Answer the following question in one word only.

How many types of phenotypic expression will be found in F_2 generation of dihybrid cross?

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80. Answer the following question in one word only.

When in a reciprocal cross both the alleles are more or less equally expressed.

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81. Answer the following question in one word only.

What is the type of allelism where more than two alleles are present in the same locus?

82. Answer the following question in one word only.

The condition where single gene does control more than one phenotypic traits?

83. Answer the following question in one word only.

The inheritance of genes which can be measured.

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84. Answer the following question in one word only.

Inheritance which can only be observed.

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85. Answer the following question in one word only.

Which one is called the bearer of hereditary material.

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86. Answer the following question in one word only.

Inheritance of characters together from parents to offsprings.

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87. Answer the following question in one word only.

What is the modern term for Mendelian factor?

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88. Answer the following question in one word only.

Exchange of chromosomal segments during meiosis.

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89. Answer the following question in one word only.

Who coined the word gene?

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90. Answer the following question in one word only.

F_2 generation is also known as?

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91. Answer the following question in one word only.

The cross where two pairs of alternative characters are taken into consideration.

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92. Fill in the blanks:

The science of heredity and variation is called .....

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93. A pair of contrasting characteristics is called :

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94. Fill in the blanks:-

P is represented as _____ generation.

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95. Fill in the blanks:-

F is represented as _____ generation.

Watch Video Solution

96. Fill in the blanks:-

When experiments are done with single pair of

characters, it is called _____ cross.

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97. Fill in the blanks:-

Pure breeding tall plant contains two similar factors for a character and are called_____.

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98. Fill in the blanks:-

The morphological expression of a character is

called_____.

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99. Fill in the blanks:-

The morphological expression of a character is called_____.

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100. Fill in the blanks:-

The internal factors responsible for

morphological expression is called _____.

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101. Fill in the blanks:-

Mendelian factors which determine the character of diploid organism is called_____.

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102. Fill in the blanks:-

Mendelian factors segregate in _____

generation.

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103. Fill in the blanks:-

The cross between F_1 hybrid and double recessive parent is called_____ cross.

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104. Fill in the blanks:-

Allele that express in both homozygous and

hetrozygous conditions is an _____ allele.

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105. Fill in the blanks:-

Incomplete dominance is a process, where there is absence of dominance in _____ condition.

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106. Fill in the blanks:-

ABO blood group is an example of _____.

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107. Fill in the blanks:-

In ABO blood group, _____ group is universal donor.

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108. Fill in the blanks:-

In a population, _____ alleles are seen.

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109. Fill in the blanks:-

When a gene takes part to determine more than one character, then, it is called_____.

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110. Fill in the blanks:-

When a number of genes take part in a phenotypic variability, it is called _____ inheritance.

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111. Fill in the blanks:-

Chromosomal basis of inheritance was proposed by Sutton and _____.

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112. Fill in the blanks:-

Chromosomes are the bearers of hereditary units called _____.

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113. Fill in the blanks:-

Mendelian factors are called_____.

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114. Fill in the blanks:-

In dihyrbrid cross, phenotypic ratio in F_2 generation is _____.

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115. Answer the following questions briefly two to three sentences each.

Monohybrid Cross.

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116. Answer the following questions briefly two to three sentences each.

Principle of dominace.

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117. Answer the following question briefly two to three sentences.

Principle of Segregation

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118. Answer the following question briefly two to three sentences.

Dihybrid cross

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119. Answer the following question briefly two to three sentences.

Back cross.

Watch Video Solution

120. Answer the following questions briefly two to three sentences each.

Test cross.

Watch Video Solution

121. Answer the following questions briefly two to three sentences each.

Incomplete dominace.

Watch Video Solution

122. Answer the following questions briefly two to three sentences each.

Co-dominace.

Watch Video Solution

123. Answer the following questions briefly two to three sentences each.

Multiple allelism.

Watch Video Solution

124. Answer the following question briefly two to three sentences.

Pleiotropy.

Watch Video Solution

125. Answer the following questions briefly two to three sentences each.

Polygenic inheritance.

Watch Video Solution

126. Answer the following questions briefly two to three sentences each.

Linkage.

Watch Video Solution

127. Answer the following questions briefly two to three sentences each.

Crossing over.

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128. Differentiate between :

Back cross and Test cross

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129. Distinguish between:Incomplete dominance and co-dominance

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130. Differentiate between: Phenotype and genotype

Watch Video Solution

131. Differentiate between :

Linkage and Crossing Over

Watch Video Solution

132. Differentiate between :

Qualitative Inheritance & Quantitative inheritance.

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133. Distinguish between:Homozygous and heterozygous

Watch Video Solution

134. Differentiate between :

Diagram of Split gene.

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135. Describe Mendel's monohybrid cross experiments and state the laws of inheritance?

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136. Discuss Mendel's dihybrid cross with checker board.

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