BIOLOGY

BOOKS - MBD -HARYANA BOARD

PRINCIPAL OF INHERITANCE AND VARIATIONS

Example

1. Mention the advangeages of selecting pea plant for experiment by Mendel.

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2. Differentiate between the following :

Dominance and Recessive

Watch Video Solution

3. Differentiate between the following :

Homozygous and heterozygous individual

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4. Differentiate between the following :

Monohybrid and dihybrid.

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5. A diploid organism is heterozygous for 4 loci,how many types of gametes can be produced?

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6. Explain the Law of Dominance using a monohybrid cross.

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7. Explain a monohybrid cross.

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8. Define and design a test – cross?

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9. Using a Punnett square, work out the distribution of phenotypic features in the first filial generation after a cross between a homozygous female and a heterozygous male for a single locus.

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green seeds(Ttyy),what proportions of phenotype in the offspring could be expected to be

tall and green

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drawf and green?

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13. Briefly mention the contribution of T.H. Morgan in genetics.

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14. What is pedigree analysis?Suggest how such an analysis can be useful?

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15. (a) How is sex determined in humans ?

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16. A child has blood group O. If the father has blood group A and mother blood group B, work out the genotypes of the parents and the possible genotypes of the other offsprings.

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Lethality

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24. Give one example of genetic trait for each of the following in humans:

Multiple allelism.

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25. What for symbols AA and Aa stand?

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26. Mention the phenomenon of pleiotropy by giving an example.

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33. Coin one word or two words equivalents for the following:

The individuals having characters of both the parents.

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34. Coin one word or two words equivalents for the following:

the cytological manifestations of crossing durig meiosis.

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35. Coin one word or two words equivalents for the following:

the gametes having genetic constitutions resembing one or the other parental type.

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36. Coin one word or two words equivalents for the following:

The basis of failure of two genes to assort independently.

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37. Coin one word or two words equivalents for the following:

the situation when two dominant linked alleles inhreitance.

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38. Coin one word or two words equivalents for the following:

The individuals resembling one or the other parental type through several generations.

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39. Coin one word or two words equivalents for the following:

the genetic phenomenon involving new combination of genes.

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40. Coin one word or two words equivalents for the following:

the characters linked to X and Y chromosomes.

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What will be the expected ratio of blck,steel-blue and white progeny?

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Mendel in pea is now considered to be pleiotropic?

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72. What are types of linkage?

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73. Explain linkage Group.

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74. Differentiate between:

Complete linkage and incomplete linkage.

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75. Differentiate between:

Crossing over and cross over gametes.

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76. Write short notes on sex linkage

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77. Give example of sex linked inheritance in Drosophila.

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78. Why is a man unable to pass on a sex linked gene to his son?

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79. Write a note on sex linked genes .

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80. What do you understand by the term recombination?

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81. Briefly mention the contribution of T.H. Morgan in genetics.

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82. Tabulate the types of mutations.

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102. Write a note on cystic fibrosis.

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103. What is the cause of phenylketonuria ? Write symptoms.

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104. Write any four differences between somatogenic and blastogenic variations.

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Exercise

1. Fill in the blanks with suitable words:

Human females are homogametic and males are..... .

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2. Fill in the blanks with suitable words:

Haemophilia is a ..... disorder.

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3. Fill in the blanks with suitable words:

X-chromosome was previously named X-body by ..... .

Watch Video Solution

4. Fill in the blanks with suitable words:

Turner's syndrome is due to ..... of chromosome ..... .

Watch Video Solution

5. Fill in the blanks with suitable words:

Klinefelter's syndrome is due to ..... of extra .....chromosome

Watch Video Solution

6. Fill in the blanks with suitable words:

down's sydrome is due to ..... of chromosome.

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7. Fill in the blanks with suitable words:

DNA fingerprinting was invented by .....

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8. State true or false:

Colour blindness is a sex linked disorder

Watch Video Solution

9. State true or false:

Human males are AA + XY and females are AA

+ XX.

Watch Video Solution

10. State true or false:

Haemophilia and colourblindness are Mendilian disorders.

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11. State true or false:

Klinefelter syndrome and turner syndrome are

chromosome disorder

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12. State true or false:

In birds female has pairs of dissimilar sex chromosomes ZW.

Watch Video Solution

13. State true or false:

Human beings normally have 24 pairs of

chromosomes.

Watch Video Solution

14. Coin one word for the following statements:

The ancestral history of an individual represented by a chart.

Watch Video Solution

15. Coin one word for the following statements:

The occurrence of only one representative of a chromosome in an otherwise diploid cell.

Watch Video Solution

16. Coin one word for the following statements:

Particular segment of DNA which controls one character.

Watch Video Solution

17. Coin one word for the following statements:

Chromosomes other than sex chromosomes.

Watch Video Solution

18. Expand PKU.

Watch Video Solution

19. Genic balance theory was proposed by :

A. Bridges

B. Morgan

C. Boveri

D. Lyon.

Answer:

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20. Males are XO and females XX in case of :

A. Squash bug

B. Fishes

C. Man

D. None of these.

Answer:

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21. A male child would be born to parents is :

A. Father is healtheir than the mother

B. Mother eats well during pregnancy

C. The gametic composition of the child includes XY combination of chromosomes.

D. None of the above

Answer:

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22. The gametic composition of child includes XX combination of chromosomes.

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23. What would be the ratio between colour blind and normal individuals in 2nd generation-progeny of colour blind man and normal woman?

A. $3:1$

B. $1:3$

C. $0:4$

D. $2:2$.

Answer:

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24. Philadelphia chromosome is reported in patients suffering from:

A. Insomia

B. Kidney stone

C. Leukaemia

D. Mental disorders

Answer:

 Watch Video Solution

25. Genetic disorder due to trisomy of chromosome 21 in humans is :

A. Down's syndrome

B. Turner's syndrome

C. Klinefelter's syndrome

D. None of these.

Answer:

26. Human females are homogametic and males are.....

27. Fill in the blanks with suitable words:

Haemophilia is a ..... disorder.

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A string of individuals homozygous for all genes being considered.

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C. Man

D. None of these.

Answer:

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44. If the female is carrier and male is normal,what percentage of female offspring will be haemophilic:

A. 0.25

B. 0.5

C. 0

D. 100%.

Answer:

Watch Video Solution

45. Sickle cell anaemia is due to :

A. A virus

B. Iron deficiency

C. Haemoglobin deficiency

D. Genetic disorder.

Answer:

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46. A male child would be born to parents if

A. Father is healtheir than the mother

B. Mother eats well during pregnancy

C. The gametic composition of the child includes XY combination of chromosomes.

D. None of the above

Answer:

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47. The gametic composition of child includes XX combination of chromosomes.

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48. A man heterozygous for sickle cell anaemia will show in his blood:

A. some normal and some sickle-shaped cells

B. all the erythrocytes having sickle like shapes

C. more normal erythrocytes and a few sickle-shaped cells.

D. None of the above

Answer:

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