



BIOLOGY

BOOKS - JNAN PUBLICATION

HEREDITY AND COMMON GENETIC DISEASES

Exercise

1. Among the following which one is applicable to a normal male in man?

A. $44A + XXY$

B. $44A + XX$

C. $46A + XYY$

D. $44A + XY$

Answer:



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2. Phenotype result of mendel's dihybrid cross will be

A. 1:3:3:1

B. 1:2:1:2:1

C. 0.04306712962963

D. 9:3:3:1

Answer:



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3. The ratio of phenotype in monohybrid cross of mendel was

A. 1 : 3

B. 3 : 1

C. 1 : 1

D. 3 : 2 : 1

Answer:



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4. Mendel's choice contrasting characters from pea plant are

A. 7 pairs

B. 4 pairs

C. 3 pairs

D. 9 pairs

Answer:



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5. When a hybrid black guineapig is crossed with a pure white guineapig the offspring of F_1 will be

A. 1 : 3

B. 3 : 1

C. 1 : 2 : 1

D. None of these

Answer:



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6. Protonopia is a type of

A. Thalassemia

B. Colourblindness

C. Haemophilia

D. None of them

Answer:



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7. Position of gene on chromosome is called

A. Locus

B. Nucleosome

C. Factor

D. Cistorn

Answer:



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8. A cross between unlike organism is known as:
1.Back cross 2.Test cross 3.Heterosis
4.Hybrid

A. Back cross

B. Test cross

C. Heterosis

D. Hybrid

Answer:



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9. The first work on genetics was done by:

A. 1.Mendel

B. 2.Vries

C. 3.Darwin

D. 4.Lamarck

Answer:



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10. The factors which represent the contrasting pairs of characters are called:

A. 1.Homologous pairs

B. 2.Alleles

C. 3.Determinants

D. 4.Dominant and recessive

Answer:



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11. When both the alleles of a gene are equally expressive, is called

A. Recessiveness

B. Phenotype

C. Codominance

D. Dominance

Answer:



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12. The genetic constitution for which a characteristic features in an organism is expressed is known as:

A. Genotype

B. Phenotype

C. Dominant

D. Recessive

Answer:



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13. Chromosome theory of inheritance was propose by

A. Sutton and Bover

B. Morgana

C. Mendel

D. Lamarck

Answer:



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14. The pea plants produced from the seeds obtained from a cross between hybrid tall (Tt) and pure dwarf (tt) pea plants will be

A. All tall

B. 80% tall and 20% dwarf

C. All dwarf

D. 50% tall 50% dwarf

Answer:



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15. The process of fertilization of female gamete with male gamete of the same plant is called:

A. 1.Back cross

B. 2.Selfing

C. 3.Test cross

D. 4.Hybrid

Answer:



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16. show labelled diagram of human sperm



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17. The monohybrid genotype ratio 1:2:1 in F_2 generation indicates

A. Dominance

B. Segregation

C. Incomplete dominance

D. Linkage

Answer:



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18. The discipline which deals with the study of inheritance of characters is:

A. 1.Genetics

B. 2.Darwinism

C. 3.Cytology

D. 4.Evolution

Answer:



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19. Gene do not occur in pairs in:

A. Zygote

B. Somatic cell

C. Gametes

D. Endosperm cell.

Answer:



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20. A haploid set of all the gene present in a gametes is called:

A. Linkage group

B. Phenotype

C. Genotype

D. Genome

Answer:



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21. A phenomenon which defies the independent assortment is:

- A. Dominance
- B. Segregation
- C. Crossing over
- D. Linkage

Answer:



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22. Which of the following crosses would produce a genotype ratio 1:2:1 in F_2 ?

A. $ab \times ab$

B. $Ab \times Ab$

C. $AB \times AB$

D. $Ab \times ab$

Answer:



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23. Mendel is popular for:

A. 1.Laws of inheritance

B. 2.Linkage theory

C. 3.Origin species

D. 4.Cell theory

Answer:



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24. Number of characters studied by Mendel in

Pea was:

A. 1)2

B. 2)3

C. 3)5

D. 4)7

Answer:



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25. The phenomenon which works opposite to the linkage is:

A. Dominance

B. Segregation

C. Independent assortment

D. cross over

Answer:



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Example

1. Who is the father of genetics?



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2. What do you mean by genotypic ratio?



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3. What is trait?





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4. Describe character.



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5. What do you understand by F_1 generation?



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6. What is selfing?





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7. Which organism is used by Mendel for experimental sample?



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8. Write down the type of colourblindness.



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9. Write the two forms of thalassemia.



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10. Who proposed linkage theory and sex linked inheritance?



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11. Who proposed the chromosomal theory of inheritance?



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12. What is Incomplete dominance? Give an example.



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13. What were the two contrasting colours of flower considered by Mendel?



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14. What is parental generation?



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15. What is F_2 generation?



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16. Define hybrid.



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17. When a cross takes place between two hybrid black guineapigs, what will be the phenotype ratio of black and white guineaping?



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18. Give the ratio of phenotypes in monohybrid cross?



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19. Tt' is homozygous or heterozygous?



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20. What is Genome?



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21. Define mutation.



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22. What do you mean by heredity?



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23. Differentiate between back cross and test cross.



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24. Give two symptoms of thalassemia



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25. What do you understand by test cross?



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26. What do you mean by heterozygous organism?



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27. What is dominant gene?"



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28. What is cross pollination?



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29. Define dihybrid cross.



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30. What is hybridization? Mention the ways by which emasculation is done.



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31. state 2 function of nucleus



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32. Write the definition of variation.



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33. What you know about continuous variation?



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34. Define monohybrid cross.



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35. What is recessive gene?



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36. What do you mean by incomplete dominance?



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37. What do you mean by homozygous organism?



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38. Explain the Mendel's law about segregation.



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39. What is Mendelism?



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40. What do you mean by crossing over?

Describe the process.



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41. Explain why Mendel has chosen pea plants for his experiment? Give four pairs of contrasting characters in pea plants studied by Mendel.



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42. Give the reasons behind Mendel's success.
What is variation and mutation?





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43. write law of dominance



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44. Mention the contrasting characters of pea plant and their contrasting features.



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45. what is fallopian tube



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46. Define monohybrid cross.



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47. Mention the segregation law.



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48. Define dihybrid cross? Discuss its events with checker board.



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49. Define dihybrid cross.



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50. Describe the experiments of monohybrid cross in guineapig with checkerboard.



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51. State the law of independent assortment.



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52. Define colourblindness and the symptoms of thalassemia.



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53. What do you know about the sex determination of human?



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54. Briefly state about the types of colour blindness. Discuss haemophillia in brief.



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55. What is mutation?



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56. Define incomplete dominance. Write down the incomplete dominance in 4 O'clock plant.



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57. why are camels thick



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58. Write the definition of variation.



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59. Mention the phenotype with a sample cross. What is allele?



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60. Write down the difference between animal cell and plant cell.



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