



BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

HEREDITY AND COMMON GENETIC DISEASE



1. Mendel's choice contrasting characters from

pea plant are

A. 7 paris

B. 9 pairs

C. 6 pairs

D. 8 pairs

Answer:

2. The ratio of phenotype in monohybrid cross

of mendel was

A. 1:3

- B. 3:2:1
- C. 1: 2
- D. 3:1

Answer:



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

A. 1:2:1

B.1:1

C. 3:1

D. none of them

Answer:



4. Phenotype result of mendel's dihybrid cross

will be

A. 9: 3: 3: 1

B. 1: 2: 2: 4: 1: 2: 1: 2: 1

C. 1: 2: 1

D.1:2:2:4

Answer:

5. Protonopia is a type of

A. Haemophilia

B. Thalassemia

C. Colourblindness

D. none of them

Answer:

6. Among the following which one is applicable

to a normal male in man?

A. 44A+XY

B. 44A+XYY

C. 44A+XX

D. 44A+XXY

Answer:

7. Chromosome theory of inheritance was

propose by

A. Morgan

B. Sutton and Bover

C. Mendel

D. Lamarck

Answer:

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

A. All dwarf

B. All tall

C. 75% tall, 20% dwarf

D. 50% tall, 50% dwarf

Answer:

9. The genetic constitution for which a characteristic feature in an organism is expressed is called

A. Phenotype

B. Genotype

C. Dominance

D. Hybrid

Answer:

10. The process of fertilization of female gemete with male gamete of the same plant, is called

A. Selfing

B. Back cross

C. test cross

D. hybrid

Answer:

11. When both the alleles of a gene are equally

expressive, is called

A. codominance

B. dominance

C. ressiveness

D. Phenotype

Answer:

12. The F_2 generation of a cross produced identical phenotypic and genetypic ratio. It is not an expected mendellan result, and can be attributed to

A. Homologous pairs

B. Independent assortment

C. Linkage

D. Incomplete dominance

Answer:

13. The first work on genetics was done by

A. lamarch

B. Mendel

C. Vries

D. Darwin

Answer:

14. The disciplin which deals with the study of

inherritance of characters is

A. cytology

B. genetics

C. darwinism

D. evolution

Answer:

15. A cross between unlike organisms is called

A. test cross

B. heterosis

C. back cross

D. hybrid

Answer:



16. Genes do not occur in pairs in

A. endosperm cells

B. Zygote

C. Gametes

D. somatic cell

Answer:

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17. Position of gene on chromosome is called

A. locus

B. nucleosome

C. factor

D. cistron

Answer:

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

A. Ab imes Ab

 ${ t B.}\,ab imes ab$

$\mathsf{C}.\,Ab imes ab$

D. AB imes AB

Answer:

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19. Mendel is popular for postulating

A. Cell theory

B. Laws of inheritance

C. Linkage theory

D. Origin of species

Answer:

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20. The phenomenon which defines the

independent assortment is

A. Segregation

B. Dominance

C. Crossing over

D. Linkage

Answer:



21. Which of the following trats in pea plant is

recession

A. Wrinkled seed

B. Yellow coloured seed

C. Purple coloured flower

D. Axial flower

Answer:



22. How many types of gametes are formed

from pea plant having genotype YyRr?

A. 1

B.4

C. 2

D. 3

Answer:

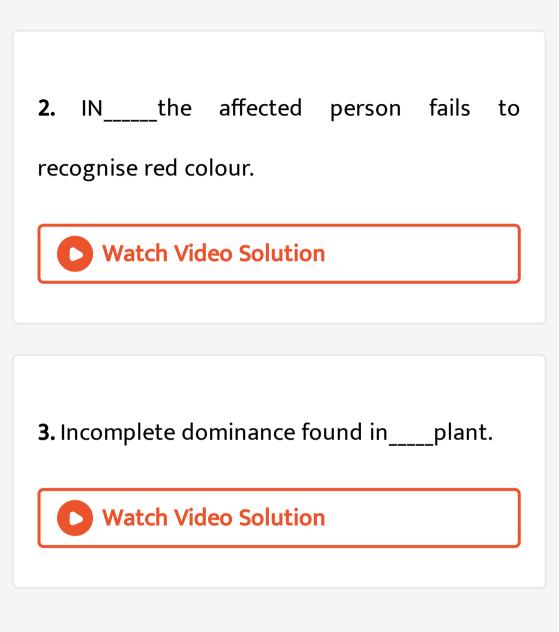


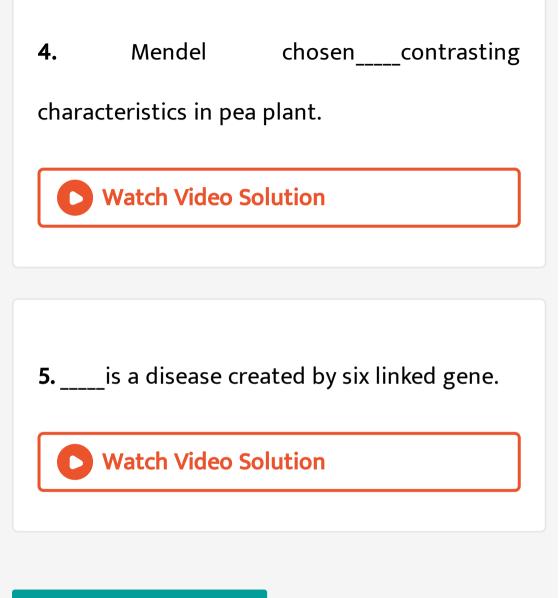
Fill In The Blanks

1. Phenotypic ratio in monohybrid cross

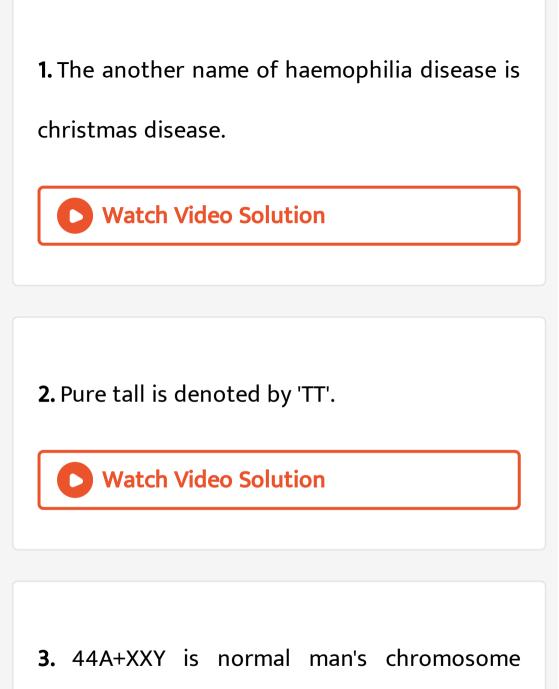
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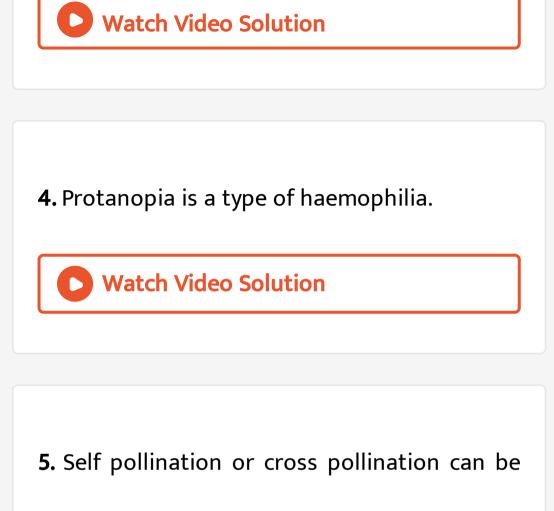




Mention True Or False



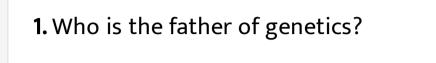
number.



exercised in flowers of pea plant according to

the need.







2. Tt' is homozygous or geterozygous?

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3. What is the genotypic ratio?





4. Give the ratio of phenotypes in monohybrid

cross?

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5. What do you mean by trait?

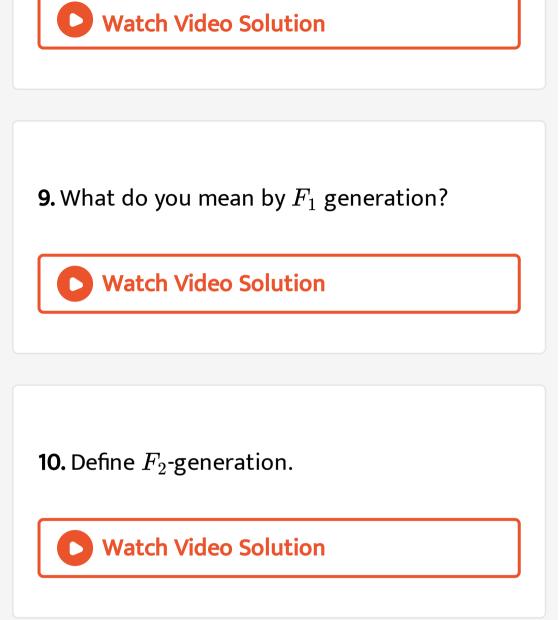
6. When a cross taken place between two hybrid black guineapigs, what will be the phenotype ratio of black and white guineapig?



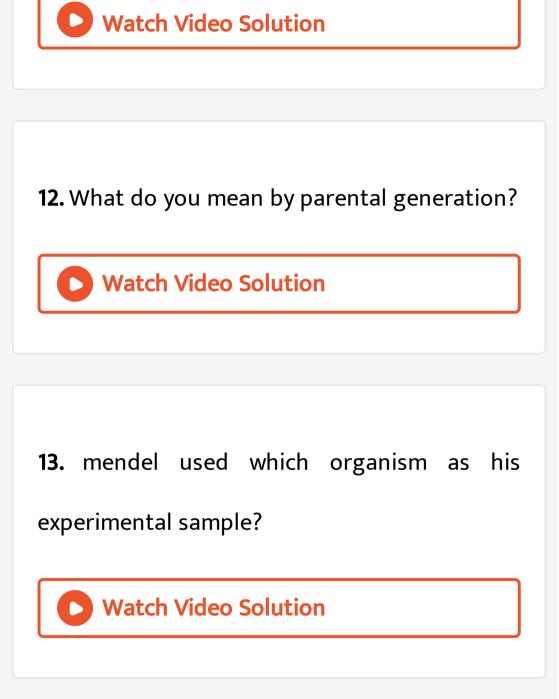
7. Define character.



8. What is hybrid?

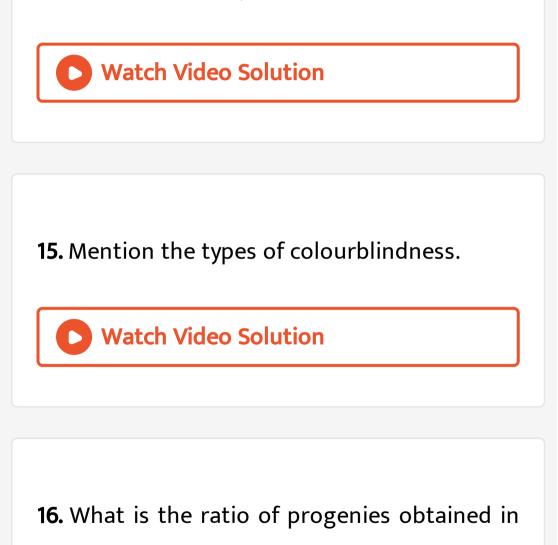


11. What is selfing?

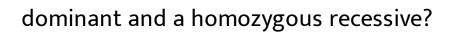


14. What were the two contrasing colours of

flower considered by mendel?



case of a cross between a heterozygous





17. Give an example of a plant which shows

incomplete dominance in flower colour.

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18. Give the two forms of thalassemia.

19. Who proposed the chromosomal theory of

inheritance?

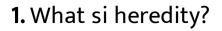
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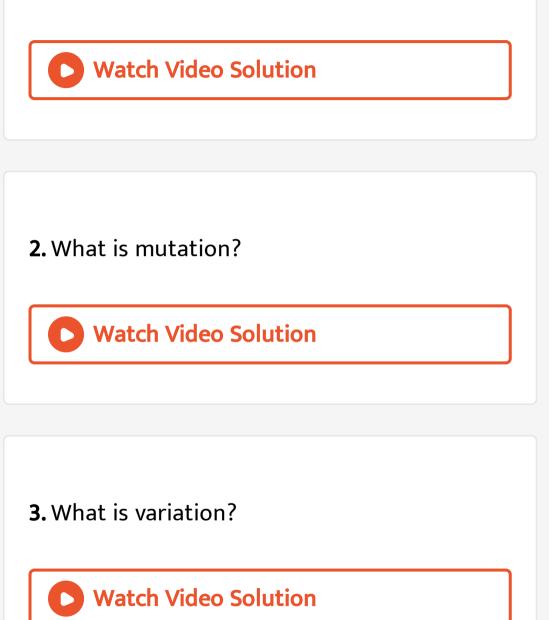
20. Give an example of a variation inherited in

man along the generation.

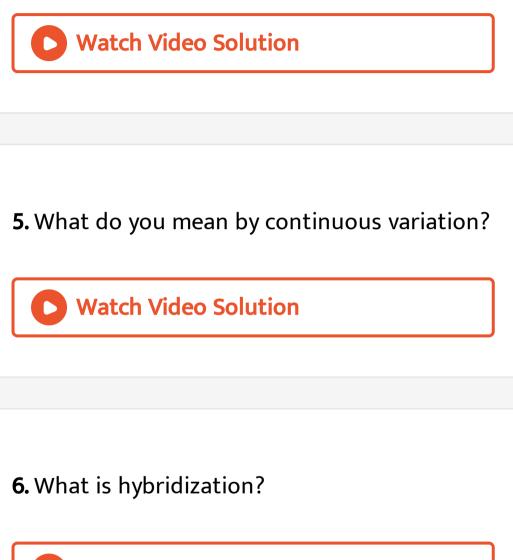


Short Answer Sa Type Question

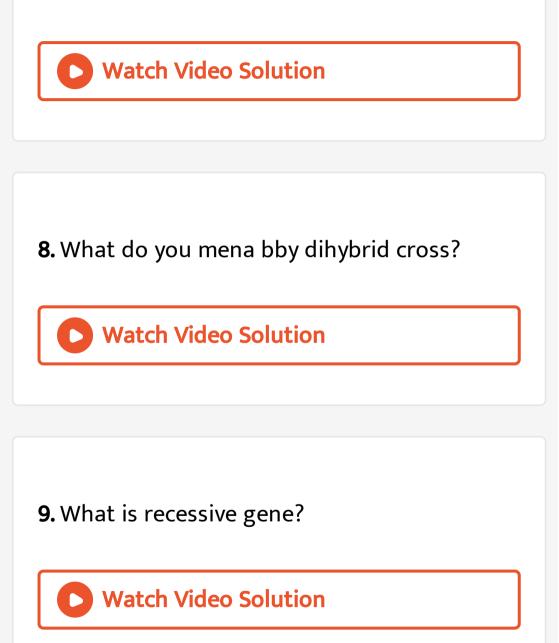




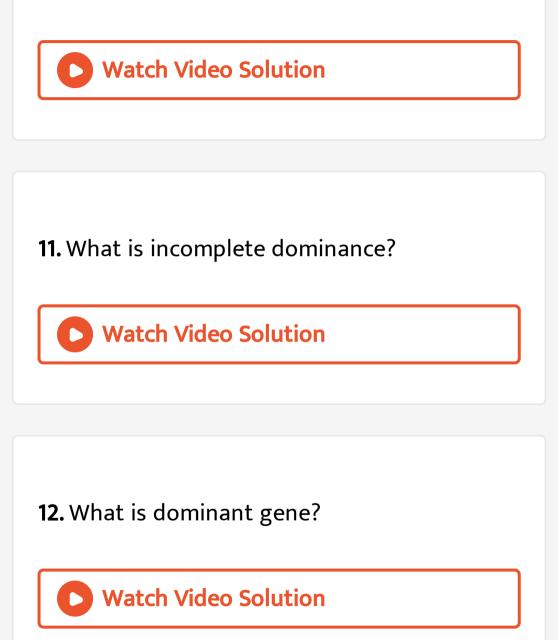
4. Define physiological variation.



7. What is monohybrid cross?



10. Define cross pollination.



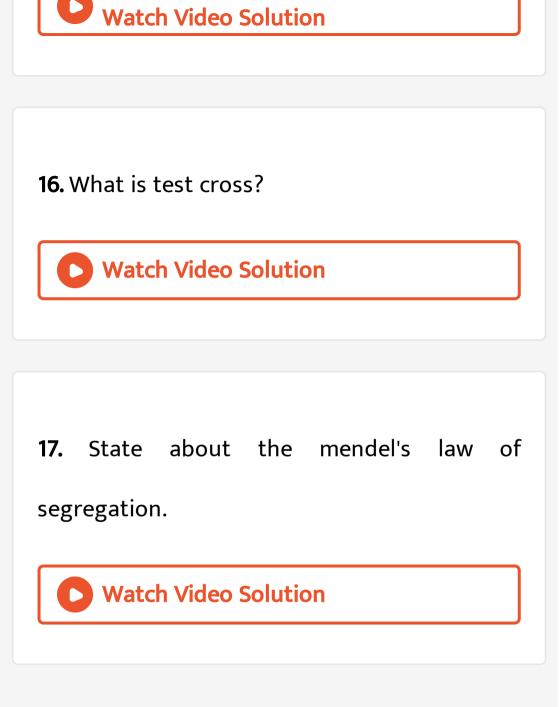
13. What do you mean by homozygous ortganism?
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14. What do you mean by heterozygous organism?

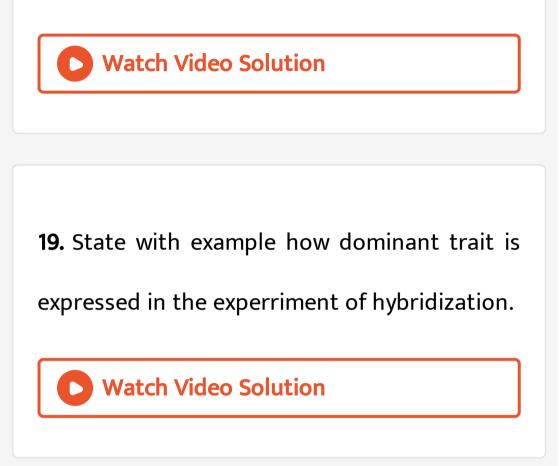
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15. What is pure breeding variety?





18. State two symptoms of thalassemia.



20. What is Mendelism?

Long Answer La Type Question

1. Why did mendel choose pea plants as his

experimental organism?

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2. Describe about mendel's work on pea plant.

3. What are the reasons behind the mendel's success?

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4. What are seven characters of pea plant?

State their contrasting feature in pea plant.

5. Describe the hybridization technique which was carried out between plant having contrasting features in controlled condition.



6. What is law of segregation? Descibe the events of monohybrid cross of pea plant with

checker boards.



7. What are the explanation of monohybriid

cross?



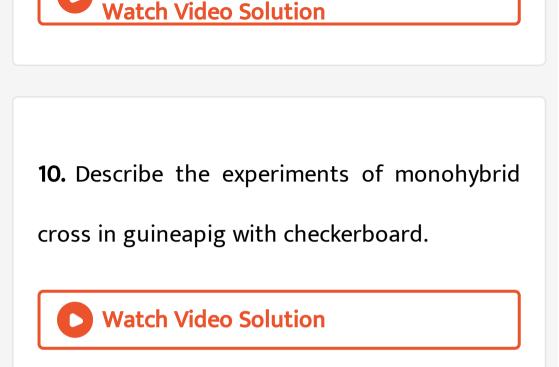
8. What are the explanation of dihybrid cross?



9. What is dihybrid cross? Describe the events

of dihybrid cross of plant with checkerboard.





11. What are the deviation from mendel's law

of heredity?

12. What is law of independent assortment? Briefly describe the events of dihybrid cross in guineapig with checkerboard.

13. Describe about the sex determination of human.

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14. What is colourblindness? What are the

symptoms of thalassemia?

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15. Brief notes on thalassemia as an autosomal chromosomal disorder and its genetic counselling.

16. Briefly state about the types of colour blindess. Describe haemophilia in brief.
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17. What is incomplete dominance? State about the incomplete dominance in 4 O'clock plant.

18. What is variation? Explain about the two

variable features in man.

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19. Define mutation. State about the

development of variation.

20. Mention the symptoms of thalassemia disease. In many families mothers are labelled as responsible for the birth of daughter child. Demonstrate with the help of a cross, that this belief is not justified.

