TEST

Practice Test-1 (Genetics)

10 Questions

10 min

Topics

Genes, Alleles and Gene Pool, Law of Segregation, Test Cross, Law of Independent Assortment (Dihybrid Cross), Probability and Product Rule

Start Test

09 : 56

Q 1/10 10 min Hint

Q : It is basic unit of biological information:

A DNA

B Gene

C Allele

D Gamete

1 2 3 4 5 6 7

09 : 51

Q 2/10 10 min Hint

Q : Which one of the following does not have a fix locus?

A Polygenes

B Multiple alleles

C Pleiotropic gene

D Jumping gene

1 2 3 4 5 6 7

09 : 47

Q 3/10 10 min Hint

Q : Mendel's principle of segregation was based on the separation of alleles in the garden pea during:

A Pollination

B Seed formation

C Embryonic development

D Gamete formation

09 : 43

Q 4/10 10 min Hint

Q : What will be the percentage of phenotypically round seed progeny if a pea plant heterozygous for round seed is crossed with wrinkled seeded pea plant?

A 0%

B 25%

C 50%

D 75%

1 2 3 4 5 6

09 : 39

Q 5/10 10 min Hint

Q : A cross used to find genotype of an individual showing a dominant phenotype is:

A Dihybrid cross

B Back cross

C Test cross

D Polygenic cross

09 : 34

Q 6/10 10 min Hint

Q : What the percentage of round green seeds in F2 progeny of dihybrid is cross were heterozygous for green seed color?

A 0%

B 25%

C 50%

D 100%

09 : 30

Q 7/10 10 min Hint

Q : How many types of gametes are produced by an organism with genotype of 'AaBB'?

A 1

B 2

C 3

D 4

4 5 6 7 8 9 10

09 : 26

Q 8/10 10 min Hint

Q : Two normal parents have an albino child. What is the probability that their next child will also be an albino?

A 0%

B 50%

C 25%

D 100%

4 5 6 7 8 9 10

09 : 23

Q 9/10 10 min Hint

Q : Which of the following is the phenotypic ratio of F_2 in Mendel's monohybrid cross?

A 1:2:1

B 9:3:3:1

C 9:7

D 3:1

4 5 6 7 8 9 10

09 : 17

Q 10/10 10 min Hint

Q : According to Mendel's monohybrid cross, the characters which appears in F_1 is said to be:

A Recessive

B Co-recessive

C Dominant

D Partially dominant

4 5 6 7 8 9 10

TEST

Practice Test-2 (Genetics)

10 Questions

10 min

Topics

Dominance Relations, Gene Linkage, Crossing Over, Crossing Over or Recombination Frequency

Start Test

09 : 56

Q 1/10 10 min Hint

Q : Dominance is physiological effect of an allele over its partner allele occupying:

A Same locus on same chromosome

B Same locus on respective homologue

C Different locus on same chromosome

D Different locus on respective homologue

1 2 3 4 5 6 7

09 : 52

Q 2/10 10 min Hint

Q : F_1 hybrid is intermediate between the two parents. The phenomenon is:

A Over-dominance

B Complete dominance

C Co-dominance

D Incomplete dominance

09 : 48

Q 3/10 10 min Hint

Q : The phenotype of heterozygote exceeds in quantity as compared to homozygotes in case of:

A Complete dominance

B Incomplete/partial dominance

C Co–dominance

D Over–dominance

09 : 43

Q 4/10 10 min Hint

Q : A gene showing co-dominance has:

A Alleles tightly liked on the same chromosome

B Alleles those are recessive to each other

C Both alleles independently expressed in the heterozygote

D One allele dominant on the other

1 2 3 4 5 6 7

09 : 39

Q 5/10 10 min Hint

Q : Mendel's law of independent assortment is applicable for:

A All genes in all organisms

B All linked genes only

C All genes of pea plant only

D All non-linked genes only

09 : 34

Q 6/10 10 min Hint

Q : Which of the following is a physical relation between genes?

A Dominance

B Epistasis

C Gene linkage

D Pleiotropy

1 2 3 4 5 6 7

09 : 30

Q 7/10 10 min Hint

Q : Genes for which of the following form a linkage group on chromosome 11?

A Leukemia, Albinism

B Hemophilia, Gout

C Gout, Sickle cell anemia

D Color blindness, Hemophilia

4 5 6 7 8 9 10

09 : 25

Q 8/10 10 min Hint

Q : Crossing over is:

A Important in genetic recombination

B A process that occur during mitosis

C What makes a cell become cancerous

D An important mechanism of DNA repair

09 : 20

Q 9/10 10 min Hint

Q : There is 30% recombination frequency between two genes. The distance between them in unit map is:

A 15

B 30

C 60

D 80

4 5 6 7 8 9 10

09 : 15

Q 10/10 10 min Hint

Q : There are 80% parental and 20% recombinant in a cross. Its recombinant frequency is:

A 10%

B 20%

C 40%

D 80%

4 5 6 7 8 9 10

TEST

Practice Test-3 (Genetics)

10 Questions

10 min

Topics

Continuously Varying Traits, Sex Linkage in Humans, Genetics of Haemophilia, Genetics of Colour Blindness

Start Test

09 : 57

Q 1/10 10 min Hint

Q : Multiple genes controlling one trait is _____ but one gene controlling multiple traits is _____:

A Polygenic trait, pleiotropy

B Pleiotropy, polygenic trait

C Epistasis, pleiotropy

D Pleiotropy, epistasis

1 2 3 4 5 6

09 : 52

Q 2/10 10 min Hint

Q : Tongue rolling is due to:

A Single recessive gene

B Single dominant gene

C Homozygous recessive

D Multiple alleles

09 : 47

Q 3/10 10 min Hint

Q : Even a single recessive allele on X chromosome in male can be expressed because:

A All genes on X chromosome can be expressed

B Y chromosome has dominant allele for that trait

C X chromosome alleles are dominant over Y chromosome

D Y chromosome does not have counter part of allele of X chromosome

09 : 42

Q 4/10 10 min Hint

Q : Most prevalent abnormality of blood clotting factor is of:

A Factor VII

B Factor VIII

C Factor IX

D Factor X

1 2 3 4 5 6 7

09 : 37

Q 5/10 10 min Hint

Q : It is an autosomal recessive trait:

A Haemophilia B

B Haemophilia C

C Protanopia

D Deuteranopia

1 2 3 4 5 6

09 : 33

Q 6/10 10 min Hint

Q : Haemophilia can be the result of:

A Reduction of blood clotting factors

B Complete absence of blood clotting factors

C Malfunctioning of blood clotting factors

D All A, B, C

09 : 27

Q 7/10 10 min Hint

Q : Partially functional opsins are present in

A Protanopia

B Deuteranopia

C Red green colorblindness

D Protanomalous

4 5 6 7 8 9 10

09 : 22

Q 8/10 10 min Hint

Q : If a female is colour blind having genetic combination X^cX^c, then the possible combination of her parents should be:

A X^CX^C, X^CY

B X^CX^C, X^cY

C X^cX^c, X^cY

D X^CX^c, X^CY

09 : 17

Q 9/10 10 min Hint

Q : A person can differentiate between colours due to presence of normal:

A Rod cells in retina

B Cone cells in retina

C Rod cells in cornea

D Cone cells in cornea

4 5 6 7 8 9 10

09 : 11

Q 10/10 10 min Hint

Q : The traits whose genes are located on X-chromosomes are:

A Sex linked traits

B Sex limited traits

C Sex controlled traits

D Sex influenced traits

TEST

Test Level-1 (Genetics)

20 Questions

15 min

Topics

Mendel's Laws of Inheritance, Genes, Alleles and Gene Pool, Dominance Relations, Law of Segregation, Test Cross, Law of Independent Assortment (Dihybrid Cross), Probability and Product Rule, Continuously Varying Traits, Gene Linkage, Crossing Over, Crossing Over or Recombination Frequency, Sex Linkage in Humans, Genetics of Haemophilia, Genetics of Colour Blindness

Start Test

14 : 57

Q 1/20 15 min Hint

Q : Seed shape in pea plant is:

A Trait

B Phenotype

C Genotype

D Genome

1 2 3 4 5 6

14 : 52

Q 2/20 15 min Hint

Q : _____ is the basic unit of biological information:

A Gamete

B Chromosome

C DNA

D Gene

1 2 3 4 5 6 7

14 : 48

Q 3/20 15 min Hint

Q : The haploid chromosome number in pea is:

A 8

B 7

C 10

D 14

1 2 3 4 5 6 7

14 : 43

Q 4/20 15 min Hint

Q : Mendel named the particulate heredity factors, that controlled a particular phenotype as:

A Genes

B Alleles

C Elementen

D Traits

1 2 3 4 5 6 7

14 : 39

Q 5/20 15 min Hint

Q : As a result of test cross the progeny showed all round seeded pea plants. Round seed pea plants of parental generation will have:

A Both recessive alleles

B Both dominant alleles

C One recessive & other dominant

D Both codominant alleles

1 2 3 4 5 6 7

14 : 35

Q 6/20 15 min Hint

Q : A test cross is conducted to determine:

A Genotype of a dominant phenotype

B Genotype of a recessive phenotype

C Phenotype of a dominant genotype

D Phenotype of a recessive genotype

14 : 27

Q 7/20 15 min Hint

Q : What type of gametes will be formed by genotype RrYy?

A RY, Ry, rY, ry

B Ry, Ry, Yy, ry

C RY, Ry, ry, ry

D Rr, RR, Yy, YY

14 : 23

Q 8/20 15 min Hint

Q : The trait which appeared in F1 mono hybrid pea plants was named by Mendel as?

A Dominant

B Recessive

C Co-dominant

D Incompletely dominant

14 : 19

Q 9/20 15 min Hint

Q : Eye colour in heterozygous Drosophila with genotype $w^{+}w$ is an example of:

A Complete dominance

B Incomplete dominance

C Co-dominance

D Over dominance

14 : 14

Q 10/20 15 min Hint

Q : Inheritance of skin colour in man is example of:

A Epistasis

B Sex linkage

C Multiple allele

D Polygenic traits

6 7 8 9 10 11

14 : 09

Q 11/20 15 min Hint

Q : Number of linkage group in *Pisum sativum* is:

A 2

B 7

C 5

D 9

6 7 8 9 10 11

14 : 04

Q 12/20 15 min Hint

Q : What is the percentage of cross over if number of recombinants are “15” out of “75” off-springs?

A 0.5%

B 0.2%

C 5%

D 20%

13 : 59

Q 13/20 15 min Hint

Q : Gene for blood clotting factor XI is located on:

A X chromosome

B Y chromosome

C Autosome

D Both X & Y chromosomes

13 : 54

Q 14/20 15 min Hint

Q : Colour blindness results from:

A Inverted retina

B Abnormal cones

C Absence of rods

D Absence of eye lids

13 : 50

Q 15/20 15 min Hint

Q : Which of the following is considered as a recessive character of Mendel?

A Green pod color

B Round seed shape

C Axial flower position

D Wrinkled seed shape

13 : 46

Q 16/20 15 min Hint

Q : When two independent events are occurring simultaneously like in dihybrid cross, the ratio of each joint phenotypic combination can be obtained by:

A Adding the probabilities of individual phenotypes

B Dividing the probabilities of individual phenotypes

C Multiplying the probabilities of individual phenotypes

D Subtracting the probabilities of individual phenotypes

13 : 41

Q 17/20 15 min Hint

Q : If a plant with genotype AaBb is self-crossed, then the probability of getting AABB genotype will be:

A 1/2

B 1/4

C 1/8

D 1/16

13 : 37

Q 18/20 15 min Hint

Q : Crossing over occurs in:

A Mitotic cells

B Meiotic cells

C Amitotic cells

D Mutating cells

4 15 16 17 18 19 20

13 : 32

Q 19/20 15 min Hint

Q : The recombination frequency is directly proportional to the:

A No. of tetrads formed

B Number of times a cell divides

C Distance between the linked gene loci

D Total number of genes of an individual

13 : 28

Q 20/20 15 min Hint

Q : It is an example of X-linked dominant trait and occur more in females as compared to the males:

A Hemophilia

B Color blindness

C Vit. D resistant rickets

D Lesch-Nyhan syndrome

TEST

Test Level-2 (Genetics)

30 Questions

25 min

Topics

Mendel's Laws of Inheritance, Genes, Alleles and Gene Pool, Dominance Relations, Law of Segregation, Test Cross, Law of Independent Assortment (Dihybrid Cross), Continuously Varying Traits, Gene Linkage, Crossing Over, Crossing Over or Recombination Frequency, Genetics of Haemophilia, Genetics of Colour Blindness

Start Test

24 : 57

Q 1/30 25 min Hint

Q : All of the following are true about alleles except:

A They are always identical

B They control same trait

C Present on respective homologue

D Can be expressed independently

1 2 3 4 5 6 7

24 : 52

Q 2/30 25 min Hint

Q : Which of the following is true about alleles?

A They occupy different loci on same chromosome

B They occupy same loci on different homologue

C They occupy different loci on same homologue

D They occupy same loci on respective homologue

24 : 46

Q 3/30 25 min Hint

Q :

Which of the following Mendelian trait of garden pea is recessive?

A Axial flower position

B Inflated pod shape

C White flower color

D Tall plant height

24 : 41

Q 4/30 25 min Hint

Q : Transposons are capable of moving from one site in DNA sequence to other mostly:

A On same chromosome

B On homologous chromosomes

C Randomly

D On non-homologous chromosomes

24 : 36

Q 5/30 25 min Hint

Q : In Mendel's experiment, nature of seed coat, flower colour, position of flower, pod colour, stem height, etc. are referred to as:

A Alleles

B Phenotypes

C Genotypes

D Traits

1 2 3 4 5 6 7

24 : 31

Q 6/30 25 min Hint

Q : In Mendel's monohybrid cross, what percentage of round seed plants were produced by F_1 heterozygous round on self-fertilization?

A 25%

B 50%

C 75%

D 100%

1 2 3 4 5 6 7

24 : 26

Q 7/30 25 min Hint

Q : A cross between a homozygous recessive and a heterozygous plant is called:

A Monohybrid cross

B Test cross

C Dihybrid cross

D Back cross

24 : 21

Q 8/30 25 min Hint

Q :

In Mendelian dihybrid cross, how many individuals are homozygous dominant for both the genes in F_2 generation?

A 1/16

B 2/16

C 4/16

D 6/16

24 : 16

Q 9/30 25 min Hint

Q : What percentage of round green seeds in F_2 progeny of dihybrid cross is heterozygous for round seed shape?

A 25%

B 33%

C 66%

D 75%

24 : 11

Q 10/30 25 min Hint

Q : In dihybrid cross, out of 16 plants obtained, the number of genotypes will be:

A 4

B 9

C 16

D 12

6 7 8 9 10 11

24 : 07

Q 11/30 25 min Hint

Q : From a cross Aa BB × aa BB, which of the following genotypic ratio will be obtained in F_1 generation?

A 1 Aa BB : 1 aa BB

B 3Aa BB : aa BB

C 1 Aa BB : 3 aa BB

D All Aa BB : No AA BB

24 : 01

Q 12/30 25 min Hint

Q : Albinism is a_____ trait.

A Autosomal dominant

B Autosomal recessive

C Sex-linked dominant

D Sex-linked recessive

23 : 57

Q 13/30 25 min Hint

Q : An allele is said to be dominant if:

A It is expressed only in heterozygous combination

B It is expressed only in homozygous combination

C It is expressed in both homozygous and heterozygous condition

D It is expressed only in second generation

23 : 52

Q 14/30 25 min Hint

Q : Which of the following blood group in humans is an example of co-dominance?

A A

B AB

C B

D O

23 : 48

Q 15/30 25 min Hint

Q : How many different types of genetically different gametes will be produced by a heterozygous plant having the genotype AABbCc?

A 2

B 4

C 6

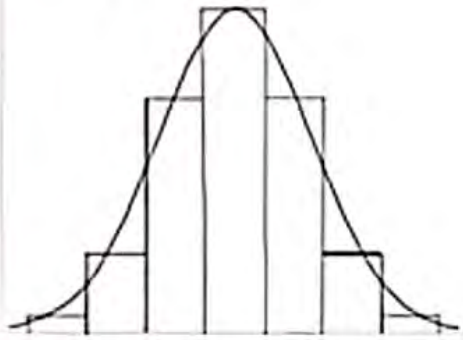
D 9

0 11 12 13 14 15 16

23 : 43

Q 16/30 25 min Hint

Q :
Which of the following trait can be related with given graph?



A Tongue rolling

B ABO Blood Group

C Seed colour in pea plant

D Eye colour in human

23 : 37

Q 17/30 25 min Hint

Q : Physical association of two genes is known as:

A Heterozygosis

B Recombination

C Linkage

D Homozygosis

15 16 17 18 19 20 21

23 : 32

Q 18/30 25 min Hint

Q : Hemophilia B is due to absence or abnormality of blood clotting factor:

A VIII

B IX

C X

D XI

15 16 17 18 19 20 21

23 : 28

Q 19/30 25 min Hint

Q :

Haemophilia is caused by a sex-linked recessive allele. Two parents have a hemophiliac son, a normal son and a hemophiliac daughter. What are the most likely genotypes of the parents?

A
Mother: X^HX^h
Father: X^hY

B
Mother: X^HY^h
Father: X^HY

C
Mother: X^hX^h
Father: X^HY

D
Mother: X^HY^H
Father: X^hY

15 16 17 18 19 20 21

23 : 22

Q 20/30 25 min Hint

Q : Which of these traits zigzags from maternal grand-father through carrier daughter to a grand-son?

A Autosomal

B X- linked

C Y-linked

D Both 'X' and 'Y' linked

23 : 17

Q 21/30 25 min Hint

Q : An example of autosomal recessive trait is:

A Haemophilia A

B Haemophilia B

C Blue blindness

D Hypophosphatemia

23 : 13

Q 22/30 25 min Hint

Q : It is the light absorbing, non-protein pigment present in the human eyes:

A Opsins

B Rhodopsin

C Chlorophyll

D Carotenes

20 21 22 23 24 25

23 : 08

Q 23/30 25 min Hint

Q : It represents normal colour vision:

A Monochromacy

B Dichromacy

C Trichromacy

D Tetrachromacy

23 : 02

Q 24/30 25 min Hint

Q : Women with normal colour vision whose father was red-green colour blind married a red-green colour blind man. What is the probability of her first born child being red-green colour blind?

A 1.0

B 0.75

C 0.66

D 0.50

20 21 22 23 24 25

22 : 57

Q 25/30 25 min Hint

Q : They have abnormal but still partially functional opsins:

A Trichromate

B Dichromate

C Monochromate

D Anomalous

24 25 26 27 28 29 30

22 : 53

Q 26/30 25 min Hint

Q :

All the genes found in a breeding population at a given time are collectively termed as:

A Gene cluster

B Gene frequency

C Gene pool

D Gene linkage

24 25 26 27 28 29 30

22 : 48

Q 27/30 25 min Hint

Q : The organism chosen by G. Mendel to explain the laws of inheritance was:

A *Homo sapiens*

B *Pisum sativum*

C *Antirrhinum majus*

D *Drosophila melanogester*

22 : 43

Q 28/30 25 min Hint

Q : A monohybrid cross produced tall and dwarf plants in 3:1 ratio. The genotype of hybrids can be:

A Tt × TT

B Tt × Tt

C tt × TT

D tt × Tt

22 : 39

Q 29/30 25 min Hint

Q : During meiosis, crossing over occur between:

A Sister chromatids of homologous chromosomes

B Non- sister chromatids of homologous chromosomes

C Sister chromatids of non-homologous chromosomes

D Non-sister chromatids of non-homologous chromosomes

22 : 33

Q 30/30 25 min Hint

Q : Genes can be mapped on a chromosome on the basis of their:

A Tetrad formation

B Location of jumping genes

C Chiasmata formation

D Recombination frequencies

TEST RESULT

Practice Test-1 (Genetics)

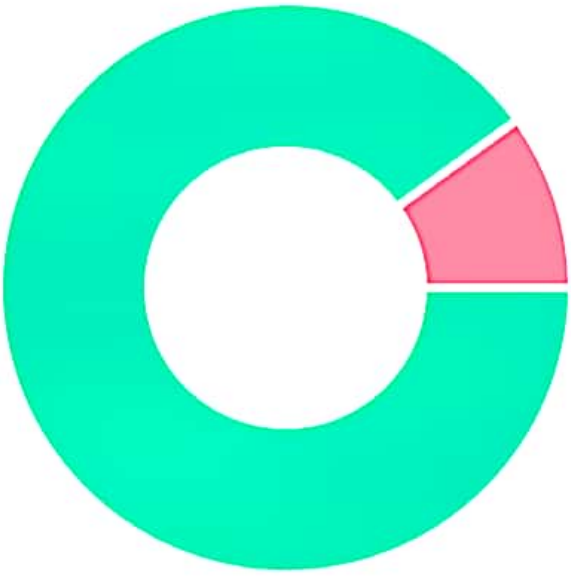
10

10 min

07-Sep-2020

9 sec

Result Detail



Correct 9

Correct
Unattempted
Incorrect
Q 1/10

Q : It is basic unit of biological information:

A DNA

B Gene

C Allele

D Gamete

Explanation

The basic unit of biological information is a sequence of nucleotides that transfers information from parents to offspring.

Correct

Unattempted

Incorrect

Q 2/10

Q : Which one of the following does not have a fix locus?

A Polygenes

B Multiple alleles

C Pleiotropic gene

D Jumping gene

Explanation

Such genes that keep on hooping from one position to another position, also called as transposons do not have fix locus.

Incorrect

Q 3/10

Q : Mendel's principle of segregation was based on the separation of alleles in the garden pea during:

A Pollination

B Seed formation

C Embryonic development

D Gamete formation

Explanation

In gametogenesis meiosis occurs. Mendel inferred that both alleles for a trait got separated during gamete formation.

Correct

Unattempted

Incorrect

Q 4/10

Q : What will be the percentage of phenotypically round seed progeny if a pea plant heterozygous for round seed is crossed with wrinkled seeded pea plant?

A 0%

B 25%

C 50%

D 75%

Explanation

Incorrect

Q 5/10

Q : A cross used to find genotype of an individual showing a dominant phenotype is:

A Dihybrid cross

B Back cross

C Test cross

D Polygenic cross

Explanation

To find genotype of an individual showing a dominant phenotype then we do a cross between a homozygous recessive and an organism showing dominant phenotype.

Correct

Unattempted

Incorrect

Q 6/10

Q : What the percentage of round green seeds in F2 progeny of dihybrid is cross were heterozygous for green seed color?

A 0%

B 25%

C 50%

D 100%

Explanation

Green seed color is a recessive trait and is expressed only in homozygous condition

Correct
Unattempted
Incorrect
Q 7/10

Q : How many types of gametes are produced by an organism with genotype of 'AaBB'?

A 1

B 2

C 3

D 4

Explanation

This can be done according to Mendel's law of independent assortment.

Incorrect

Q 8/10

Q : Two normal parents have an albino child. Wha is the probability that their next child will also be an albino?

A 0%

B 50%

C 25%

D 100%

Explanation

As both parents are carrier which shows albinism is a recessive trait. One out of 4 children will effected from disease.

Correct

Unattempted

Incorrect

Q 9/10

Q : Which of the following is the phenotypic ratio of F_2 in Mendel's monohybrid cross?

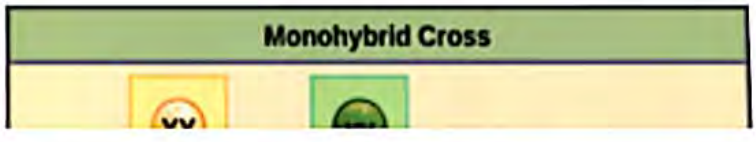
A 1:2:1

B 9:3:3:1

C 9:7

D 3:1

Explanation



Q : According to Mendel's monohybrid cross, the characters which appears in F_1 is said to be:

A Recessive

B Co-recessive

C Dominant

D Partially dominant

Explanation

Dominant and recessive traits exist when a trait has two different forms at the gene level. The trait that first appears or is visibly expressed in the organism is called the dominant trait. The trait that is present at the gene level but is masked and does not show itself in the organism is called the recessive trait.

TEST RESULT

Practice Test-2 (Genetics)

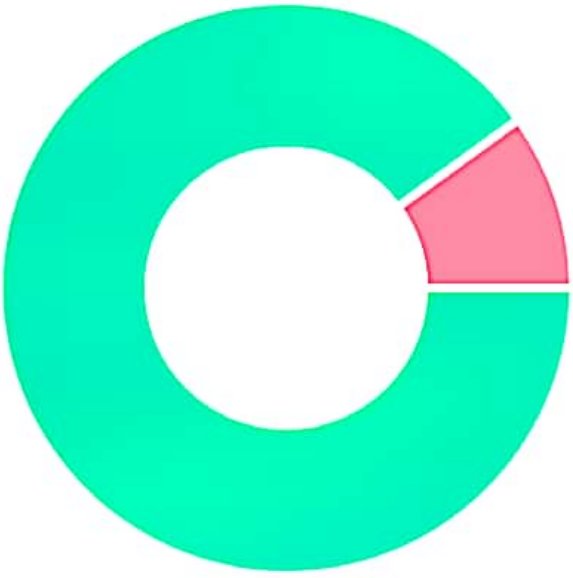
10

10 min

07-Sep-2020

10 sec

Result Detail



Correct 9

Correct

Unattempted

Incorrect

Q 1/10

Q : Dominance is physiological effect of an allele over its partner allele occupying:

A Same locus on same chromosome

B Same locus on respective homologue

C Different locus on same chromosome

D Different locus on respective homologue

Explanation

Dominance is a relationship between partner alleles on homologous chromosomes.

Correct

Unattempted

Incorrect

Q 2/10

Q : F_1 hybrid is intermediate between the two parents. The phenomenon is:

A Over-dominance

B Complete dominance

C Co-dominance

D Incomplete dominance

Explanation

When the phenotype of a heterozygote is blend between phenotypes of two homozygotes, the phenomenon is incomplete dominance.

Incorrect

Q 3/10

Q : The phenotype of heterozygote exceeds in quantity as compared to homozygotes in case of:

A Complete dominance

B Incomplete/partial dominance

C Co–dominance

D Over–dominance

Explanation

In fruit fly Drosophila the heterozygote (w+/w) has more quantity of fluorescent pigments in eyes than wild (w+/w+) or white eye (w/w) homozygotes.

Practice Test-2 (Genetics)

Correct

Unattempted

Incorrect

Q 4/10

Q : A gene showing co-dominance has:

A Alleles tightly liked on the same chromosome

B Alleles those are recessive to each other

C Both alleles independently expressed in the heterozygote

D One allele dominant on the other

Explanation

If both alleles independently expressed in a heterozygote, then the phenomenon will be co-dominance.

1 2 3 4 5 6

Practice Test-2 (Genetics)

Correct

Unattempted

Incorrect

Q 5/10

Q : Mendel's law of independent assortment is applicable for:

A All genes in all organisms

B All linked genes only

C All genes of pea plant only

D All non-linked genes only

Explanation

Linked genes cannot assort independently.

1 2 3 4 5 6 7

Correct

Unattempted

Incorrect

Q 6/10

Q : Which of the following is a physical relation between genes?

A Dominance

B Epistasis

C Gene linkage

D Pleiotropy

Explanation

Genes are linked linearly on the same DNA molecule within a chromosome.

Practice Test-2 (Genetics)

Correct

Unattempted

Incorrect

Q 7/10

Q : Genes for which of the following form a linkage group on chromosome 11?

A Leukemia, Albinism

B Hemophilia, Gout

C Gout, Sickle cell anemia

D Color blindness, Hemophilia

Explanation

Genes for Leukemia and Albinism are present on autosome 11. Hemophilia is X linked.

5 6 7 8 9 1

Incorrect

Q 8/10

Q : Crossing over is:

A Important in genetic recombination

B A process that occur during mitosis

C What makes a cell become cancerous

D An important mechanism of DNA repair

Explanation

In crossing over, genetic information is exchanged between homologous chromosomes. This exchange creates new combinations of genes, leading to increased genetic variation in the offspring.

Incorrect

Q 9/10

Q : There is 30% recombination frequency between two genes. The distance between them in unit map is:

A 15

B 30

C 60

D 80

Explanation

If 1% of recombination frequency is equal to 1 unit map, then the two linked genes 'A' and 'B' with a 30% recombination frequency must be 30 units apart.

Incorrect

Q 10/10

Q : There are 80% parental and 20% recombinant in a cross. Its recombinant frequency is:

A 10%

B 20%

C 40%

D 80%

Explanation

It can be calculated by the using the following formula:

- Recombination frequency = Recombinant types/Sum of all combination × 100

TEST RESULT

Practice Test-3 (Genetics)

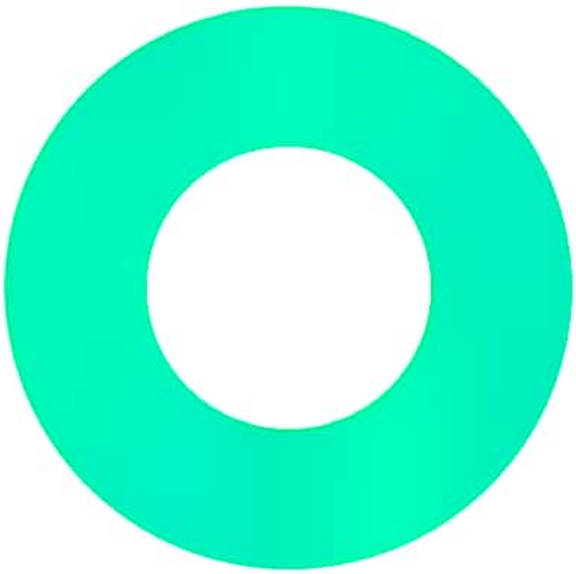
10

10 min

08-Sep-2020

22 sec

Result Detail



Correct 10

Incorrect

Q 1/10

Q : Multiple genes controlling one trait is _____ but one gene controlling multiple traits is _____:

A Polygenic trait, pleiotropy

B Pleiotropy, polygenic trait

C Epistasis, pleiotropy

D Pleiotropy, epistasis

Explanation

A genetic product always depends on the sequence of the nucleotide present on different loci of the gene. But Pleiotropy is one gene influences two or more seemingly unrelated phenotypic traits.

Correct

Unattempted

Incorrect

Q 2/10

Q : Tongue rolling is due to:

A Single recessive gene

B Single dominant gene

C Homozygous recessive

D Multiple alleles

Explanation

Tongue rolling is the product of heterozygous genotype.

Correct

Unattempted

Incorrect

Q 3/10

Q : Even a single recessive allele on X chromosome in male can be expressed because:

A All genes on X chromosome can be expressed

B Y chromosome has dominant allele for that trait

C X chromosome alleles are dominant over Y chromosome

D Y chromosome does not have counter part of allele of X chromosome

Explanation

Hemizygous have only one copy of gene and the other copy is missing on its counterpart.

Incorrect

Q 4/10

Q : Most prevalent abnormality of blood clotting factor is of:

A Factor VII

B Factor VIII

C Factor IX

D Factor X

Explanation

Hemophilia A = 80%

Hemophilia B = 20%

Hemophilia C = less than 1%

Correct
Unattempted
Incorrect
Q 5/10

Q : It is an autosomal recessive trait:

A Haemophilia B

B Haemophilia C

C Protanopia

D Deuteranopia

Explanation

Colour blindness (Red, Green), Haemophilia A and B are sex linked traits while haemophilia C is autosomal recessive.

Correct

Unattempted

Incorrect

Q 6/10

Q : Haemophilia can be the result of:

A Reduction of blood clotting factors

B Complete absence of blood clotting factors

C Malfunctioning of blood clotting factors

D All A, B, C

Explanation

Any problem in blood clotting cascade will result in haemophilia.

Correct

Unattempted

Incorrect

Q 7/10

Q : Partially functional opsins are present in

A Protanopia

B Deuteranopia

C Red green colorblindness

D Protanomalous

Explanation

Partially functional opsins are present in protanomalous.

Correct

Unattempted

Incorrect

Q 8/10

Q : If a female is colour blind having genetic combination X^cX^c, then the possible combination of her parents should be:

A X^CX^C, X^CY

B X^CX^C, X^cY

C X^cX^c, X^cY

D X^CX^c, X^CY

Explanation

Colour blindness is an X linked recessive trait.

Correct | Unattempted

Incorrect | Q 9/10

Q : A person can differentiate between colours due to presence of normal:

A Rod cells in retina

B Cone cells in retina

C Rod cells in cornea

D Cone cells in cornea

Explanation

Opsins are absent from rod cells and this protein functions to visualize colours.

Q : The traits whose genes are located on X-chromosomes are:

A Sex linked traits

B Sex limited traits

C Sex controlled traits

D Sex influenced traits

Explanation

- A sex-linked trait is a trait that is controlled by a gene located on the sex chromosomes.
- Sex influenced traits occur in both males and females but it is more common in one sex.
- Sex limited traits are the traits that are limited to only one sex due to anatomical differences.

TEST RESULT

Test Level-1 (Genetics)

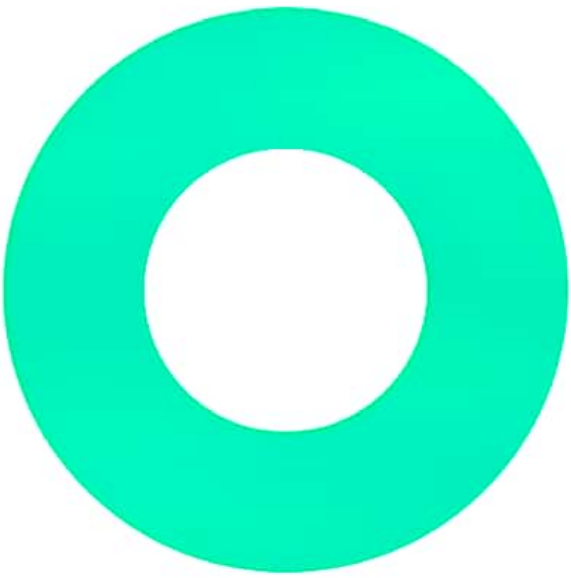
20

15 min

08-Sep-2020

7 sec

Result Detail



Correct 20

Test Level-1 (Genetics)

Correct

Unattempted

Incorrect

Q 1/20

Q : Seed shape in pea plant is:

A Trait

B Phenotype

C Genotype

D Genome

Explanation

The inheritable characteristics are traits. i.e. flower colour is a trait and red or white is phenotypes.

1 2 3 4 5 6

Correct

Unattempted

Incorrect

Q 2/20

Q : _____ is the basic unit of biological information:

A Gamete

B Chromosome

C DNA

D Gene

Explanation

All traits of an individual are control by specific sequence of nucleotides present on DNA.

Correct

Unattempted

Incorrect

Q 3/20

Q : The haploid chromosome number in pea is:

A 8

B 7

C 10

D 14

Explanation

Number of chromosomes in somatic cell of pea is 14.

Test Level-1 (Genetics)

Correct

Unattempted

Incorrect

Q 4/20

Q : Mendel named the particulate heredity factors, that controlled a particular phenotype as:

A Genes

B Alleles

C Elementen

D Traits

Explanation

According to Mendel Particulate hereditary factors responsible to control traits.
Johannsen used the term gene.

1 2 3 4 5 6

Correct

Unattempted

Incorrect

Q 5/20

Q : As a result of test cross the progeny showed all round seeded pea plants. Round seed pea plants of parental generation will have:

A Both recessive alleles

B Both dominant alleles

C One recessive & other dominant

D Both codominant alleles

Explanation

Correct

Unattempted

Incorrect

Q 6/20

Q : A test cross is conducted to determine:

A Genotype of a dominant phenotype

B Genotype of a recessive phenotype

C Phenotype of a dominant genotype

D Phenotype of a recessive genotype

Explanation

Test cross is used to determine genotype of an individual showing dominant phenotype.

Incorrect

Q 7/20

Q : What type of gametes will be formed by genotype RrYy?

A RY, Ry, rY, ry

B Ry, Ry, Yy, ry

C RY, Ry, ry, ry

D Rr, RR, Yy, YY

Explanation

Phenotypes	Round
Genotypes	RrYy
Gametes	RY, Ry, rY,

Incorrect

Q 8/20

Q : The trait which appeared in F1 mono hybrid pea plants was named by Mendel as?

A Dominant

B Recessive

C Co-dominant

D Incompletely dominant

Explanation

Alleles are partners of a gene pair. In heterozygous condition the allele which is not expressed is called as recessive while the one which expresses in heterozygous condition is called as dominant.

Incorrect

Q 9/20

Q : Eye colour in heterozygous Drosophila with genotype $w^{+}w$ is an example of:

A Complete dominance

B Incomplete dominance

C Co-dominance

D Over dominance

Explanation

In fruit fly Drosophila the heterozygote (w+/w) has more quantity of fluorescent pigments in eyes than wild (w+/w+) or white eye (w/w) homozygotes.

Correct

Unattempted

Incorrect

Q 10/20

Q : Inheritance of skin colour in man is example of:

A Epistasis

B Sex linkage

C Multiple allele

D Polygenic traits

Explanation

Human skin colour is a quantitative trait which is controlled by 3 to 6 gene pairs.

Correct

Unattempted

Incorrect

Q 11/20

Q : Number of linkage group in *Pisum sativum* is:

A 2

B 7

C 5

D 9

Explanation

Pea has seven linkage groups corresponding to its haploid number of chromosomes.

Incorrect

Q 12/20

Q : What is the percentage of cross over if number of recombinants are “15” out of “75” off-springs?

A 0.5%

B 0.2%

C 5%

D 20%

Explanation

$$\text{combination frequency} = \frac{\text{Recombination types}}{\text{Sum of all combinations}} \times 100$$

Correct | Unattempted

Incorrect | Q 13/20

Q : Gene for blood clotting factor XI is located on:

A X chromosome

B Y chromosome

C Autosome

D Both X & Y chromosomes

Explanation

Hemophilia C is caused by clotting factor deficiency and its gene is on autosome.

Incorrect

14/20

Q : Colour blindness results from:

A Inverted retina

B Abnormal cones

C Absence of rods

D Absence of eye lids

Explanation

Rods are sensitive to low light intensity while cones are sensitive to high light intensity. Cone cells have specific light absorbing proteins called opsin. Mutation in opsin genes causes colour blindness.

Incorrect

Q 15/20

Q : Which of the following is considered as a recessive character of Mendel?

A Green pod color

B Round seed shape

C Axial flower position

D Wrinkled seed shape

Explanation

Green pod color, round shaped seeds and axial position of the flowers in *P. sativum* are dominant characters while wrinkled seed shape is a recessive character.

Q : When two independent events are occurring simultaneously like in dihybrid cross, the ratio of each joint phenotypic combination can be obtained by:

A. Adding the probabilities of individual phenotypes

B. Dividing the probabilities of individual phenotypes

C. Multiplying the probabilities of individual phenotypes

D. Subtracting the probabilities of individual phenotypes

Explanation

When two independent events are occurring simultaneously like in dihybrid cross, the ratio of each joint phenotypic combination can be obtained by multiplying the probabilities of individual phenotypes.

Incorrect

Q 17/20

Q : If a plant with genotype AaBb is self-crossed, then the probability of getting AABB genotype will be:

A 1/2

B 1/4

C 1/8

D 1/16

Explanation

If a plant with genotype AaBb is self-crossed, then the probability of getting AABB genotype will be 1/16 provided that gene A and B are not linked.

Incorrect

Q 18/20

Q : Crossing over occurs in:

A Mitotic cells

B Meiotic cells

C Amitotic cells

D Mutating cells

Explanation

Crossing over is the exchange of genetic material between non-sister chromatids of homologous chromosomes during meiosis, which results in new allelic combinations in the daughter cells

Correct

Unattempted

Incorrect

Q 19/20

Q : The recombination frequency is directly proportional to the:

A No. of tetrads formed

B Number of times a cell divides

C Distance between the linked gene loci

D Total number of genes of an individual

Explanation

The recombination frequency is directly proportional to the distance between the linked gene loci.

Incorrect

Q 20/20

Q : It is an example of X-linked dominant trait and occur more in females as compared to the males:

A Hemophilia

B Color blindness

C Vit. D resistant rickets

D Lesch-Nyhan syndrome

Explanation

Hemophilia, color blindness and Lesch-Nyhan syndrome are examples of X-linked recessive traits while Vit. D resistant rickets is an example of X-linked dominant trait.

TEST RESULT

Test Level-2 (Genetics)

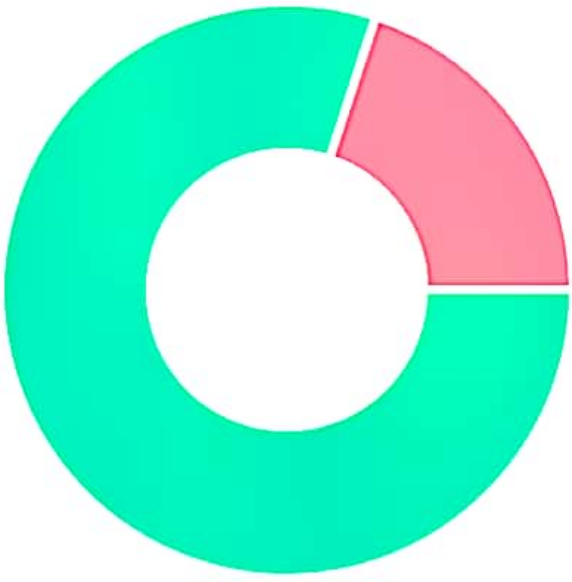
30

25 min

08-Sep-2020

9 sec

Result Detail



Correct 24

Correct | Unattempted

Incorrect | Q 1/30

Q : All of the following are true about alleles except:

A They are always identical

B They control same trait

C Present on respective homologue

D Can be expressed independently

Correct | Unattempted

Incorrect | Q 2/30

Q : Which of the following is true about alleles?

A. They occupy different loci on same chromosome

B. They occupy same loci on different homologue

C. They occupy different loci on same homologue

D. They occupy same loci on respective homologue

Test Level-2 (Genetics)

Correct

Unattempted

Incorrect

Q 3/30

Q :

Which of the following Mendelian trait of garden pea is recessive?

A Axial flower position

B Inflated pod shape

C White flower color

D Tall plant height

1 2 3 4 5 6 7

Correct
Unattempted
Incorrect
Q 4/30

Q : Transposons are capable of moving from one site in DNA sequence to other mostly:

A On same chromosome

B On homologous chromosomes

C Randomly

D On non-homologous chromosomes

Test Level-2 (Genetics)

Correct

Unattempted

Incorrect

Q 5/30

Q : In Mendel's experiment, nature of seed coat, flower colour, position of flower, pod colour, stem height, etc. are referred to as:

A Alleles

B Phenotypes

C Genotypes

D Traits

1 2 3 4 5 6

Correct

Unattempted

Incorrect

Q 6/30

Q : In Mendel's monohybrid cross, what percentage of round seed plants were produced by F_1 heterozygous round on self-fertilization?

A 25%

B 50%

C 75%

D 100%

Correct

Unattempted

Incorrect

Q 7/30

Q : A cross between a homozygous recessive and a heterozygous plant is called:

A Monohybrid cross

B Test cross

C Dihybrid cross

D Back cross

Test Level-2 (Genetics)

Correct

Unattempted

Incorrect

Q 8/30

Q :

In Mendelian dihybrid cross, how many individuals are homozygous dominant for both the genes in F_2 generation?

A 1/16

B 2/16

C 4/16

D 6/16

4 5 6 7 8 9

Correct

Unattempted

Incorrect

Q 9/30

Q : What percentage of round green seeds in F_2 progeny of dihybrid cross is heterozygous for round seed shape?

A 25%

B 33%

C 66%

D 75%

Correct

Unattempted

Incorrect

Q 10/30

Q : In dihybrid cross, out of 16 plants obtained, the number of genotypes will be:

A 4

B 9

C 16

D 12

Correct | Unattempted

Incorrect | Q 11/30

Q : From a cross Aa BB × aa BB, which of the following genotypic ratio will be obtained in F_1 generation?

A 1 Aa BB : 1 aa BB

B 3Aa BB : aa BB

C 1 Aa BB : 3 aa BB

D All Aa BB : No AA BB

Test Level-2 (Genetics)

Correct

Unattempted

Incorrect

Q 12/30

Q : Albinism is a_____ trait.

A Autosomal dominant

B Autosomal recessive

C Sex-linked dominant

D Sex-linked recessive

8 9 10 11 12 13

Correct | Unattempted

Incorrect | Q 13/30

Q : An allele is said to be dominant if:

A. It is expressed only in heterozygous combination

B. It is expressed only in homozygous combination

C. It is expressed in both homozygous and heterozygous condition

D. It is expressed only in second generation

Correct

Unattempted

Incorrect

14/30

Q : Which of the following blood group in humans is an example of co-dominance?

A. A

B. AB

C. B

D. O

Test Level-2 (Genetics)

Correct

Unattempted

Incorrect

Q 15/30

Q : How many different types of genetically different gametes will be produced by a heterozygous plant having the genotype AABbCc?

A 2

B 4

C 6

D 9

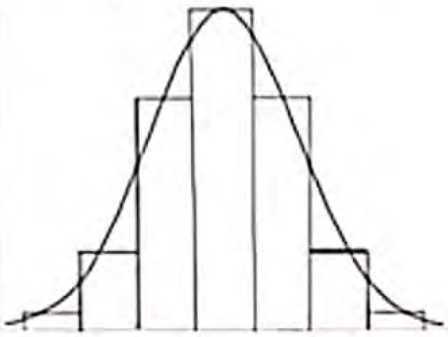
Correct

Unattempted

Incorrect

Q 16/30

Q :
Which of the following trait can be related with given graph?



A Tongue rolling

B ABO Blood Group

C Seed colour in pea plant

D Eye colour in human

Correct
Unattempted
Incorrect
Q 17/30

Q : Physical association of two genes is known as:

A Heterozygosis

B Recombination

C Linkage

D Homozygosis

Correct

Unattempted

Incorrect

Q 18/30

Q : Hemophilia B is due to absence or abnormality of blood clotting factor:

A VIII

B IX

C X

D XI

Incorrect

Q 19/30

Q :

Haemophilia is caused by a sex-linked recessive allele. Two parents have a hemophiliac son, a normal son and a hemophiliac daughter. What are the most likely genotypes of the parents?

A
Mother: X^HX^h
Father: X^hY

B
Mother: X^HY^h
Father: X^HY

C
Mother: X^hX^h
Father: X^HY

D
Mother: X^HY^H
Father: X^hY

Correct

Unattempted

Incorrect

Q 20/30

Q : Which of these traits zigzags from maternal grand-father through carrier daughter to a grand-son?

A Autosomal

B X- linked

C Y-linked

D Both 'X' and 'Y' linked

Correct | Unattempted

Incorrect | Q 21/30

Q : An example of autosomal recessive trait is:

A Haemophilia A

B Haemophilia B

C Blue blindness

D Hypophosphatemia

Correct | Unattempted

Incorrect | 22/30

Q : It is the light absorbing, non-protein pigment present in the human eyes:

A Opsins

B Rhodopsin

C Chlorophyll

D Carotenes

Correct

Unattempted

Incorrect

Q 23/30

Q : It represents normal colour vision:

A Monochromacy

B Dichromacy

C Trichromacy

D Tetrachromacy

Correct

Unattempted

Incorrect

Q 24/30

Q : Women with normal colour vision whose father was red-green colour blind married a red-green colour blind man. What is the probability of her first born child being red-green colour blind?

A 1.0

B 0.75

C 0.66

D 0.50

Correct | Unattempted

Incorrect | Q 25/30

Q : They have abnormal but still partially functional opsins:

A Trichromate

B Dichromate

C Monochromate

D Anomalous

Correct

Unattempted

Incorrect

Q 26/30

Q :

All the genes found in a breeding population at a given time are collectively termed as:

A Gene cluster

B Gene frequency

C Gene pool

D Gene linkage

Correct

Unattempted

Incorrect

Q 27/30

Q : The organism chosen by G. Mendel to explain the laws of inheritance was:

A *Homo sapiens*

B *Pisum sativum*

C *Antirrhinum majus*

D *Drosophila melanogester*

Correct

Unattempted

Incorrect

Q 28/30

Q : A monohybrid cross produced tall and dwarf plants in 3:1 ratio. The genotype of hybrids can be:

A Tt × TT

B Tt × Tt

C tt × TT

D tt × Tt

Correct

Unattempted

Incorrect

Q 29/30

Q : During meiosis, crossing over occur between:

A Sister chromatids of homologous chromosomes

B Non- sister chromatids of homologous chromosomes

C Sister chromatids of non-homologous chromosomes

D Non-sister chromatids of non-homologous chromosomes

Correct

Unattempted

Incorrect

30/30

Q : Genes can be mapped on a chromosome on the basis of their:

A Tetrad formation

B Location of jumping genes

C Chiasmata formation

D Recombination frequencies