



BIOLOGY

BOOKS - MBD BIOLOGY (ODIA ENGLISH)

HEREDITY AND VARIATION

Question Bank

1. A pure tall and a pure dwarf plant were crossed to produced offsprings . Offsprings

were self crossed then find out the ratio between true breeding tall to true breeding dwarf?

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

Answer: A

2. Genetics tern was proposed by

A. Mendel

B. Bateson

C. Morgan

D. Johannson



3. Mother homozygous B,and father is A. What will be the possible blood group in their progeny ?

A. AB & B possible

B. AB & A possible

C. A and B possible

D. O possible

Answer: A

4. In ABO blood groups, how many phenotypes

are found ?

A. 6

B. 8

C. 1

D. 4

Answer: D

5. When a tall plant with round seeds (TTRR) crossed with a dwarf plant with wrinkled seeds (ttrr), the F_1 generation consists of tall plant with round seeds . What would be the proportion of dwarf plant with wrinkled seeds in F_1 -generation ?

A.
$$\frac{1}{4}$$

B. $\frac{1}{16}$
C. 0
D. $\frac{1}{2}$

Answer: C



6. In man , the blue eye colour is recessive to the brown eye colour . If the boy has brown eye and his mother is blue eyed, what would be the phenotype of his father ?

A. Black eye

B. Brown eye

C. Green eye

D. Blue eye

Answer: B

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7. A common test to find the genotype of a hybrid is by:

A. Crossing of one F_2 progeny with female

parent

B. Studying the sexual behaviour of F_1

progenies

C. Crossing of one F_1 progeny with male

parent

D. Crossimg of one F_2 progeny with male

parent

Answer: C

8. Inheritances of skin colour in human is an example of:

A. Point mutation

B. Polygenic inheritance

C. Co- dominance

D. Chromosomal aberration .

Answer: B

9. In pea plants , yellow seeds are dominant to green . If a heterozygous yellow seeded plant is crossed with a green seeded plant , what ratio of yellow and green seeded plants would you expect in F_1 - generation ?

A. 50:50

B. 9:1

C. 1:3

D. 3:1

Answer: D





10. The offsprings of mating between two pure

strains are called as:

A. heterosis

B. hybrid

C. progeny

D. cybird

Answer: B

11. G.Mendal used the plant:

A. Oenothera lamarkiana

B. Lathyrus sativus

C. Mirabilis jalapa

D. Pisum sativum

Answer: D

12. Organism with two different allele is:

A. heterozygous and homozygous

B. heterozygous

C. homozygous

D. none of these

Answer: B

13. Which blood group person can donate the

blood to all other person ?

A. A

B. **B**

C. AB

D. 0

Answer: D

14. A dihybrid test cross yielding a result of 1:

1: 1: 1 ratio is indicative of :

A. 4 different type of gametes produced by

the F_1 dihybrid

B. homozygous condition of the F_1 dihybrid

C. 4 different type of F_1 generation dihybrids

D. 4 defferent types of gametes produced

by the P_1 parent

Answer: A



15. Indicate, the inheritance of which of the following is controlled by multiple alleles :

A. colour blindness

- B. sickle cell anaemia
- C. blood group
- D. phenylketonuria





16. How many types of gametes are obtained from a plant of genotype TTRr?

A. one

B. two

C. four

D. many

Answer: B



17. In a cross between a pure tall pea plant with green and a pure short plant with yellow pod,how many short plants out of 16,you would expect in F_2 generation .

A. 3

B. 9

D. 1

Answer: C

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18. In humans, height shows a lot of variation, it is an example of:

A. multiple alleles

B. pleiotropic inheritance

C. polygenic inheritance

D. pseudoalleles

Answer: C

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19. Inheritance of blood group is a condition of:

- (A) Co-dominance
- (B) Incomplete dominance
- ,(C)Multiple allelism
- (D) Multiple gene

A. B,D

B. B, C

C. A, D

D. A, C

Answer:

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20. Which one of the following represents a

test cross?

- A. Ww \times WW
- B. Ww \times Ww
- C. Ww \times ww
- D. WW \times WW

Answer: C

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21. The term genome denotes :

A. haploid set of chromosome

B. bivalent

C. monovalent

D. diploid chromsome set

Answer: A

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22. Test cross is a cross between :

A. hybrid \times dominant parent

B. hybrid \times recessive parent

C. hybrid \times hybrid parent

D. two distantly related spices

Answer: B

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23. Mendel's principle of segregation means

that the germ cells always recived :

A. one pair of alleles

B. one quarter of the genes

C. one of the paired alleles

D. any pair of alleles

Answer: C

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24. All the genes contained in a haploid uncleus is called as :

A. gene pool

B. allele

C. genome

D. operon

Answer: C



25. Inheritances of flower colour is an example

of incomplete dominance, which is seen in :

A. Antirrhinum

B. Pisum

C. Solonum

D. Hibiscus

Answer: A



26. When red blood corpuscles containing both A and B antigens are mixed with your blood serum, they agglutinate. Hence your blood grop is ____ type.

A. AB

B.O

C. A

D. B

Answer: B

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27. A cross in which an organism showing a dominant phenotype is crossed with the

recessive parent in order to know its genotype

is colled :

A. monohybrid cross

B. back cross

C. test cross

D. dihybrid cross

Answer: C

28. Heterozygosity of F_1 hybrids can be

determined by:

A. back cross

B. test cross

C. reciprocal cross

D. hybrid cross

Answer: B

29. Heterozygous tall plant (Tt)is crossed with homozygous dwarf (tt) plant. The what will be the percentage of dwarf plants in the next generation ?

- A. 0~%
- $\mathsf{B.}\:50\:\%$
- C. 25~%
- D. 100~%



30. If a cross between two individuals produce offspring with 50% dominant character (A) and 50% recessive character (a) the genotype of parents are:

A. Aa \times Aa

B. Aa imes aa

C. AA imes aa

D. AA imes Aa



31. If F_1 generation has all tall progenies and ratio of F_2 generation is 3:1 (tall :dwarf) then it proves

- A. Low of independent assortment
- B. Lows of seggregation
- C. Low of dominance
- D. incomplete dominance



32. The behavior of the chromosomes was parallel to the behavior of genes during meiosis was noted by

A. Correns

B. Tschermak

C. Sutton and Boveri

D. de Vries

Answer: C



33. Which of the folowing is the number of alleles for blood group in an individual ?

A. 1

B. 2

C. 3

D. 4

Answer: C



34. In an organism, tall phenotype is dominant over recessive dwarf phenotype, and the alleles are designated as T and t respectively. Upon crossing two different individuals, total 250 offsprings were obtained, out of which 125 displayed tall phenotype and rest were dwarf. Thus, the genotype of the parents were

A. TT imes TT

B. TT \times tt

C. Tt imes Tt

D. Tt $\,\times\,$ tt

Answer: D



35. In a monohybrid cross between two heterozygous individual, the number of pure homozygous individuals obtained in F_1 generation is

A. 2

B. 4

C. 6

D. 8

Answer: A



36. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are some as 1 : 2 : 1. It represents a case

of

A. co-dominance

B. dihybrid cross

C. monohybrid cross with complete

dominance

D. monohybrid cross incomplete

dominance

Answer: D

37. What is the scientific name of the plant with which Mendal worked?

A. Oenothera lamarckiana

B. Oenothera mendeliana

C. Pisum sativum

D. Oryza sativa

Answer: C

38. When a hybrid tall pea plant is cross fertilized with a dwarf pea plant , the ratio of tall is to dwarf plants grown from the seeds will be :

A. 0.1256944444444

Β.

C.

D.

Answer: D



39. What are the gene pair signifying a trait called?

A. Hybrid

B. Phenotype

C. Pure line

D. Alleles

Answer: D

40. Who postulated the law of inheritance ?

A. Lamarck

B. Darwin

C. mendal

D. Haeckel

Answer: C

41. When heterozygous round seeded plant is crossed with a recessive wrinkle seeded plant and round and wrinkle phenotypes will appear in F_1 in the ratio :

A.1:2

B. 2:1

C. 1:1

D. 3:1

Answer: C





42. What was the phenotypic ratio in F_2 of mendelian . monohybrid cross?

A. 1:1

B. 2:1

C. 3:1

D.9:3:3:1

Answer: C

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

A. 1:1

B. 3:1

C. 1:1

D.1:2:1

Answer: D

44. Character that is expressed in hybrid is :

A. Dominant

B. Recessive

C. Multiple

D. None of these

Answer: A

45. Character that is suppressed in heterozygous state in called :

A. dominant

B. recessive

C. Suppressed

D. Overshadowed

Answer: B

46. mendel succeeded in his experiments because:

A. He selected pea plants

B. Independent characters were studied

C. A lot of charcters were selected

D. Pea plant is bisexual

Answer: B

47. In F_2 generation of a monohybrid cross in

what ratio the recessive character appears?

A.
$$\frac{1}{2}$$

B. $\frac{1}{4}$
C. $\frac{3}{4}$

D. 1

Answer: B

48. In a Mendelian hybrid experiment, F_1

plants are :

A. Heterozygous

B. Homozygous

C. Hemizygoys

D. Dizygous

Answer: A

49. The character which predominates and clearly seen in F_1 generation is

A. Intermediate

B. Incomplete

C. Recessive

D. Dominant

Answer: D

50. The term back cross refers to

A. A cross among F_1 hybrid

B. A cross betwee F_1 hybrid and either of

parents

C. A cross between F_1 and F_2 plants

D. none of these

Answer: B

51. Which of the following ratio represents a

test cross ?

A. 3:1

B.9:3:3:1

C.1:2:1

D.1:1:1:1

Answer: D

52. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are some as 1 : 2 : 1. It represents a case of

- A. Dominance
- B. Incomplete dominance
- C. Test cross
- D. Back cross

Answer: B



53. A gamete contains how many alleles of a gene ?

A. One

B. Two

C. All

D. None

Answer: A

54. Find out the genotyps (s) of the offspring

of the cross AaBb $\, imes\,$ aabb

A. AaBb

B. Aabb

C. AaBb and aabb

D. AaBb, Aabb, aaBb, and aabb

Answer: D

55. A cross between AaBB x aaBB produces the

offspring with genotypes :

A. 1 AaBB : 3 aaBB

B. 3 AaBB : 1 aaBB

C.1 AaBB : aaBB

D. All AaBB

Answer: C

56. An allele is said to be dominant if it is expressed in :

A. Heterozygous condition only

B. Homozygous condition only

C. Both heterozygous and homozygous

conditions

D. Gametes

Answer: C



57. Precentage of recessive phenotype in a cross between two hybrid is :

A. 25~%

B. 50 %

C. 75 %

D. 100~%

Answer: A

58. What will be the percentage of the tall plants with red flower in a cross between TTRr x ttrr, when T stands for tall dominant and R for red dominant ?

A. 25~%

 $\mathsf{B.}\,50~\%$

C. 75 %

D. 100~%

Answer: B



59. In humans polygenes are responsible for

A. Albinism

B. Haemophilia

C. Colour blindness

D. Skin colour

Answer: D

60. An F_2 genotypic ratio of 1:4:6:4:1 instead of 9:3:3:1 indicates :

A. Qualitative inheritance

B. Quantitative inheritance

C. Incomplete dominance

D. Multiple allelism

Answer: B

61. Fill in the blank: Organisms phenotypically similar and but genotypically different are called _____.

A. Heterozygotes

B. Homozygotes

C. Monozygotes

D. Multizygotes

Answer: A

62. In order to find out the different types of gametes produced by a pea plant having the genotypes AaBb , it should be crossed to a plant with genotypes :

A. AABB

B. AaBb

C. aabb

D. aaBB

Answer: C

63. Which of the following is most suitable medium for culture of Drosophila melanogaster ?

A. Cow dung

B. Moist bread

C. Agar agar

D. Ripe banana

Answer: D

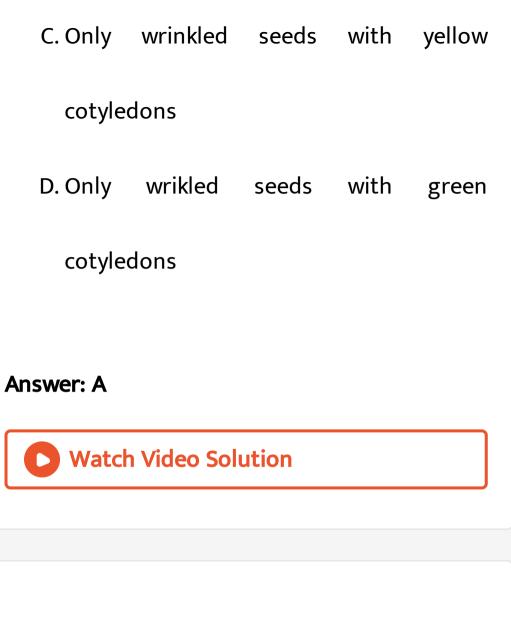


64. In mendel's experiments with garden pea , round seed shape (RR) was dominant over wrinkled seeds (rr) ,yellow cotyledon (YY) was dominant over green cotyledon (yy) . What are the expected phenotypes in the F_2 generation of the cross RRYY x rryy ?

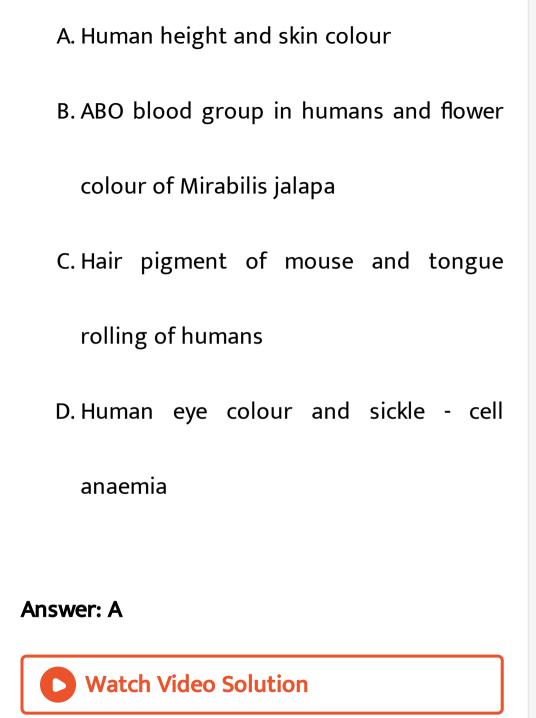
A. Round seeds with yellow cotyledons, and

wrinkled seeds with green cotyledons

B. Only round seeds with green cotyledons



65. Which one of the following pairs of features is a good example of polygenic inheritance ?



66. Mating of an organism to a double recessive in order to determine whether it is homozygous or heterozygous for a character under consideration is called :

A. Reciprocal cross

B. Test cross

C. Dihybrid cross

D. Back cross

Answer: B

67. Two pea plants were subjected for cross pollination . Of the 183 plants produced in the next generation . 94 plants , were found to be tall and 89 plants were found to be dwarf.The genotypes of the two parental plants are likely to be :

- A. TT and tt
- B. Tt and Tt
- C. Tt and tt

D. TT and TT

Answer: C

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68. The F_2 generation offspring in a plant showing incomplete dominance exhibit :

A. Variable genotype and phenotypic ratios

B. A genotypic ratio of 1:1

C. A phenotypic ratio of 3:1

D. Similar phenotypic and genotypic ratio

of 1 : 2 :1

Answer: D



69. Discontinuous variations are :

A. Acquired characters

B. Mutations

C. Essential features

D. Non - essential features

Answer: B

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70. When a hybrid tall pea plant is cross fertilized with a dwarf pea plant , the ratio of tall is to dwarf plants grown from the seeds will be :

A. 3 : 1

B. 2 : 1

C. 1 : 3

D.1:1

Answer: D

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71. Law of segregation explains expression of

recessive characters in :

A. Parental generation

B. F_1 generation

C. F_2 generation

D. All of these

Answer: B

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72. A cross between a organism with dominant phenotype and a homozygous recessive to know the genotype of former is called :

A. back cross

B. test cross

C. reciprocal cross

D. Monohybrid cross

Answer: B

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73. A mother of blood group O has a group O

child , the father could be

A. A or B or O

B. O only

C. A or B

D. AB only

Answer: A

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74. After a cross of tall plant and dwarf plant, in F_1 generation ratio of tall : dwarf is 50 : 50. What are the genotypes of parents ?

A. Tall heterozygous , dwarf homozygous

B. Both homozygous

C. Both heterozygous

D. Dwarf heterozygous, tall homozygous

Answer: A

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75. A pair of contrasting characteristics is called :

A. Phenotype

- B. Genotype
- C. Allele
- D. Gene

Answer: C



76. A couple with blood groups A and B may have children with blood group :

A. A and B only

B. A,B and AB

C. A, B, AB and O

D. AB only

Answer: C

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77. Which of the following ratio represents a

test cross ?

A. 3 : 1

B.9:3:3:1

C.1:2:1

D.1:1:1:1

Answer: D



78. An F_2 genotypic ratio of 1:4:6:4:1 instead of

9:3:3:1 indicates :

- A. Monogenic
- B. Qualitative
- C. Quantitative
- D. Incomplete

Answer: C



79. Which term was used by mendel to represent hereditary unit ?

A. Gene

B. allele

C. Factor

D. Elements

Answer: D

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80. Right - handedness is dominant over left-

handedness . Most probable gene types

having two right - handed parents , a left

handed child are

A. RR x RR

B. RR x Rr

C. Rr x Rr

D. All of these

Answer: C

81. What types of genotypes are expected when a plant with AABb genotypes is self-pollinated ?

A. 3 AABB : 1 AABb

B. 3 AABB :1 Aabb

C. 1 AABB : 1 Aabb

D. 4 AABB : 8 AABb : 4 AAbb

Answer: D

82. Which one of the following pairs of features is a good example of polygenic inheritance ?

- A. Skin colour in humans
- B. Flower colour in Mirabilis jalapa
- C. Production of male honeybee
- D. Pod shape in garden pea

Answer: A

83. How many different kinds of gametes will be produced by a plant having the genotype AaBbCC ?

A. Two

B. Three

C. Four

D. Nine

Answer: A

84. Test cross is a cross between :

A. Crossing between two genotypes with

dominant traits

B. Crossing between two genotypes with

recessive traits

C. Crossing between two F_1 hybrids

D. Crossing the F_1 hybrid with a double

recessive genotype

Answer: D



85. What is the dominant to recessive ratio in

Mendel's monohybrid cross ?

A. 1:1

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

D. 9:3

Answer: C





86. What are the gene pair signifying a trait called?

A. Hybrid

B. Phenotype

C. Pure line

D. Alleles

Answer: D

87. In male cells of humans _____ is absent.

A. Golgibodies

B. ER

C. Barr body

D. Sex chromosome

Answer: C

88. Which organism has taken as experimental

material by Morgan for genetic study?

A. Oenothera lamarckiana

B. Pisum sativum

C. Drosophila melanogaster

D. Musca domestica

Answer: C

89. Father transmit X- lined trait to ____

A. Sons

B. Daughters

C. BOTH (A) AND (B)

D. None of these

Answer: B

90. A person with sex chromosomes XXY suffers from :

A. Down's syndrome

B. Turner's syndrome

C. Sturge-Weber syndrome

D. Klinefelter's syndrome

Answer: D

91. Genetic identity of human male is

determined by:

A. Autosome

B. Nucleolus

C. Sex chromosomes

D. Cell organelles

Answer: C

92. Which one of the following is known as

Christmas disease ?

A. Haemophilia B

B. Hepatitis B

C. Down's syndrome

D. Sleeping sickness

Answer: A

93. Freemartin is an example of :

A. Hormonal cantrol of sex

B. Sex reversal

C. Transformer gene

D. Nutritional control of sex

Answer: A

94. Girl of normal vision whose father was colour-blind marries a man of normal vision whose father was also colour-blind The sons of this marriage would be :

A. All normal

B. All colour-blind

C. 50% colour-blind

D. 25% colour-blind

Answer: C





95. Gynandromorph is :

A. Male with female trait

B. Female with male traits

C. Half male and half female

D. None of the above

Answer: C

96. Barr body repersents :

A. Heterochromatin in male and female

cells

- B. All heterochromatin in female cells
- C. One of the two X-chromosomes in

somatic cells of female

D. Y-chromosome in somatic cells

Answer: C

97. Hypertrichosis is a trait linked to :

A. X-chromosomes

B. Y-chromosomes

C. Autosomes

D. None of the above

Answer: B

98. A haemophilia man marries a carrier woman. Their children will be :

A. All haemophiliac

B. One-fourth haemophiliac

C. Half haemophiliac

D. One-tenth haemophiliac

Answer: C

99. Sickle-cell anaemia is an example of :

A. Epistasis

- B. Co-dominance
- C. Pleiotropy
- D. Incomplete dorminance

Answer: C



100. In human beings, the skin colour is contrilled by :

A. Multiple alleles

B. Polygenic effect

C. Lethal genes

D. None of these

Answer: B

101. A recessive sex-linked trait in human will be expressed :

A. Only in males

B. More often in males than in females

C. More often in females than in males

D. Equally in both males and females

Answer: B

102. Discontinuous variations are :

- A. Acquired characters
- **B.** Mutations
- C. Essential features
- D. Non-essential features

Answer: B

103. The tern gene which was coined by Johannsen was termed by Mendel as

A. Replicon

B. Factor

C. Active principal

D. Cistron

Answer: B

104. Continuous variations are attributed to

meiosis through :

A. Polyploidy

B. Mutations

C. Chromosomal aberrations

D. Crossing over

Answer: D

105. How many possible genotypes are there for the ABO blood group which are controlled by three multiple alleles ?

A. 6

B.4

C. 5

D. 1

Answer: A



106. In a dihybrid cross , F_2 ratio of 15 : 1 is due to :

- A. Recessive epistasis
- B. Dominant epistasis
- C. Duplicate genes
- D. Supplementary genes

Answer: D

107. When two dominant independently assorting genes react with each other to produce a trait different from that they produced alone, they are called :

A. Duplicate genes

B. Supplementary genes

C. Collaborative genes

D. Complementery genes

Answer: D

108. Male XX and female XY sometimes occur due to :

A. Deletion

B. Transfer of segments in sex

chromosomes

C. Aneuploidy

D. Hormonal imbalance

Answer: B

109. A disease caused by autosomal primary non-disjunction is :

A. Klinefelter's syndrome

B. Turner's Syndrome

C. Sickle cell anemia

D. Down's syndrome

Answer: D

110. Sickle-cell anaemia is

A. Sex-linked inheritance

B. Autosomal heritable disease

C. Infectious disease

D. Deficiency disease

Answer: B

111. When an allele of one gene suppresses an allele of another gene,the phenomenon is called :

- A. Dominance
- **B.** Suppression
- C. Epistasis
- D. Inactivation

Answer: C



112. Genes of which inheritable traits are present on the X-chromosome ?

A. Albinism

B. Sickle-cell anaemia

C. Haemophilia

D. Malaria

Answer: C

113. The genotype of a male individual having

sexual character of a female could be :

A. XY

B. XO

C. XYY

D. XXY

Answer: D

114. Human gene determining sex at seventh

week of pregnancy called TDF is present on :

A. 21 st pair autosome

B. X-chromosome

C. Y-chromosome

D. None of the above

Answer: C

115. Somatic chromosomes are autosomes

while sex chromosomes are called _____

A. Allosomes

B. Polysomes

C. X-Chromosomes

D. Nullisomes

Answer: A

116. _____ is a sex -linked trait.

A. Haemophilia

B. Night blindness

C. Xeropthalmia

D. Xeroderma

Answer: A

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

A. Monohybrid cross

B. Test cross

C. Back cross

D. Dihybrid cross

Answer: B

118. Which genetic disease is regarded as Royel

disease ?

A. Red-Green colour blindness

B. Turner's syndrome

C. Klinefelter's syndrome

D. Haemophilia or Bleeder's disease

Answer: D

119. In birds _____ type of sex determination occurs.

A. XX female XY male

B. XX female XO male

C. ZW female ZZ male

D. ZW female ZO male

Answer: C

120. Who proposed genic balance theory for

determination of sex in Drosophila?

A. Crew

B. Calvin Bridges

C. Wilson

D. Goldschmidt

Answer: B

121. Gregor Johann Mendel is regarded as what



?

122. Which term was used by mendel to

represent hereditary unit ?



123. What the cross between two parents differing in a single character is called ?
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124. Name the genotype of a hybrid tall pea

plant.



125. Depending on which hybridisation experiment Mendel suggested law of independent assortment.



126. How many autosomes are present in a

mature human sperm?

127. In which sex of human , colour blindness

appears in more numbers.

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128. Roan colour in cattle is due to what condition of genes controlling red and white colour ?

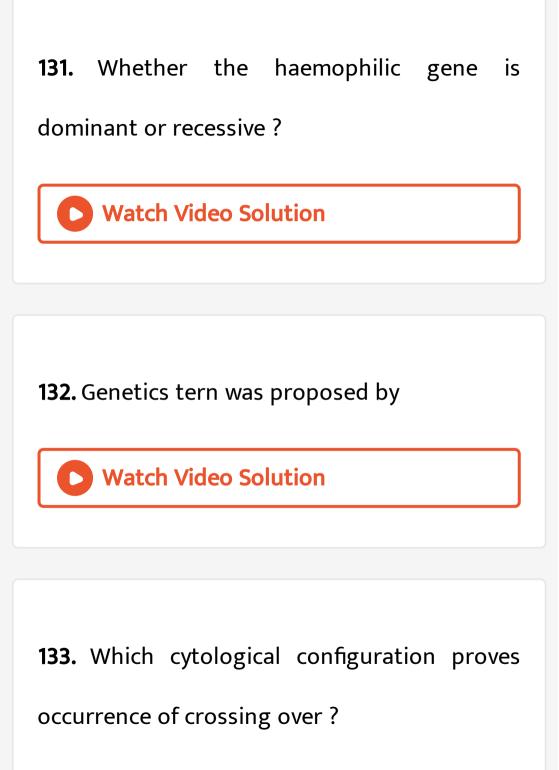
129. What is the scientific name of the plant

with which Mendal worked?

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130. Who proposed chromosome theory for

heredity?

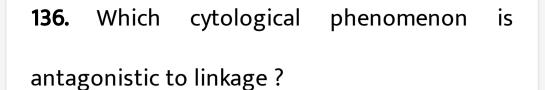




134. In which organism complete linkage is found ?

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135. Who proposed Coupling and Repulsion theory?



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137. The point of contact where the non-sister chromatids of a homologue chromosome cross over each other is called what ?



138. Give the number of linkage groups of human and drosophila.
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139. Who gave the Cytological Proof of

crossing over ?



140. How many X-chromosomes are present in

male grasshopper ?

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141. Which is the smallest chromosome of

human?



142. Down's syndrome is the result of trisomy

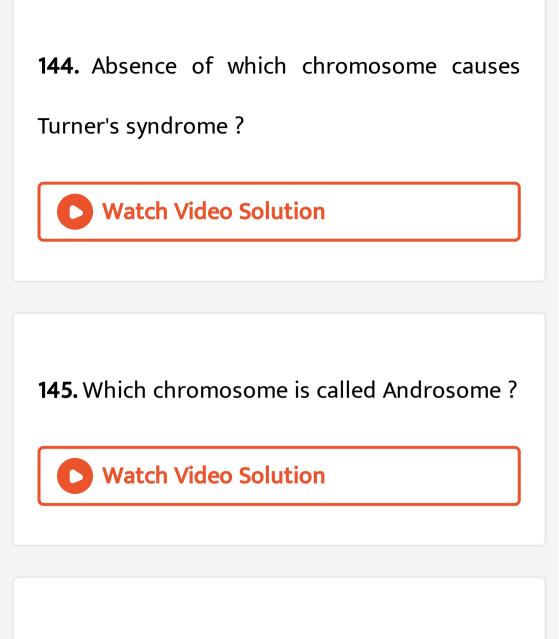
of which chromosome ?

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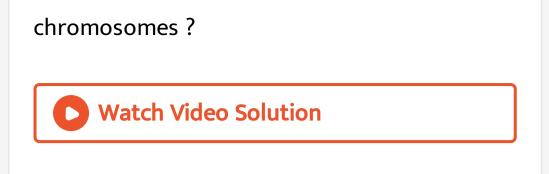
143. Trisomy of which chromosome is

responsible for Edward's syndrome ?





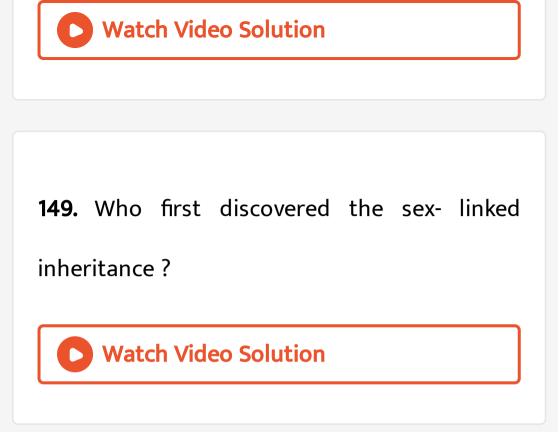
146. Male member of bees, ants, wasps and sawflies possess how many haploid sets of



147. If one half of the body has male traits and the other half has female characters, what term is applied for such individuals ?

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148. Who first observed the sex chromosomes



150. Which genetic disease is regarded as

Royel disease ?

151. Whether a woman has the gene that generates beard in man ?
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152. On which chromosome of man holandric

genes occur?

153. Haemophilia B is otherwise called what disease ?
Watch Video Solution

154. Name the chromosome disorder which

causes due to Robertsonian Translocation .

155. By which modern technique disputed parentages are solved ?
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156. Who proposed strain and torsion theory

to account for crossing over ?

157. Who proposed breakage first theory for

crossing over ?

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158. Crossing over occurs between sister

chromatids. True or False?

159. The gene for baldness behaves as an autosomal dominant in males and autosomal recessive in female . True and False ?



160. Type of food is responsible for fertile queen and sterile worker bees. True and False

?



161. What will be the eye character of a male child if a colourblind woman marries a normal-visioned man ?

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162. In which mammal the barr body was first

discovered ? From which cell ?

163. In which of the following, sex is determined environmentally?

A. Bonellia

B. Drosophilia

C. Gypsy moth

D. Cattles

Answer: Bonellia

164. In birds which sex is heterogametic ?



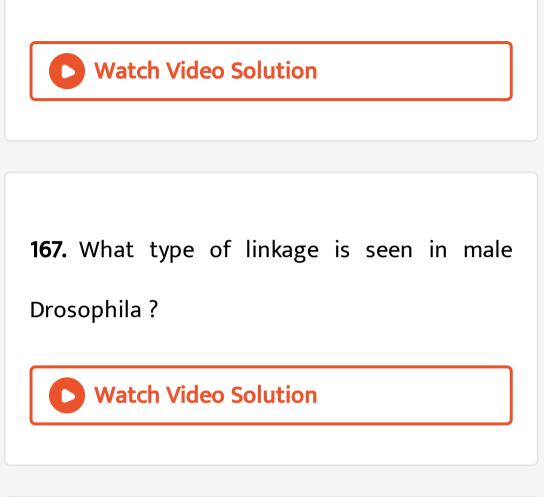
165. What is the tendency of two or more genes of the same chromosome to remain together in the process of inheritance called ?

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166. Name the process that breaks the linkage

between two genes of the same chromosome

and brings about recombination.



168. Which cytological phenomenon is antagonistic to linkage ?

169. Who proposed genic balance theory for

determination of sex in Drosophila?

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170. Somatic chromosomes are autosomes

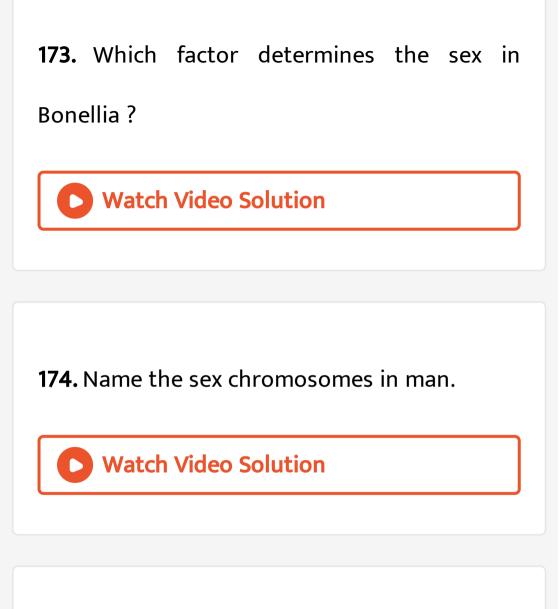
while sex chromosomes are called ____

171. What are the chromosome which control body characters, but not the sexual characters called ?



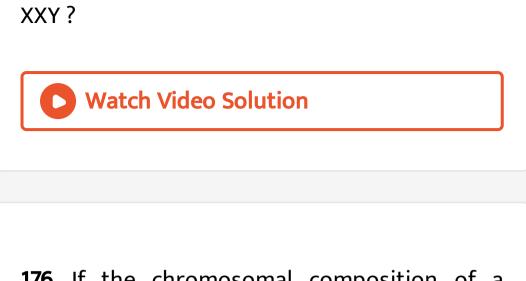
172. Which theory of sex determination is

applicable for freemartins ?



175. Which syndrome is expressed if a man has

chromosome constitution 44 autosome and

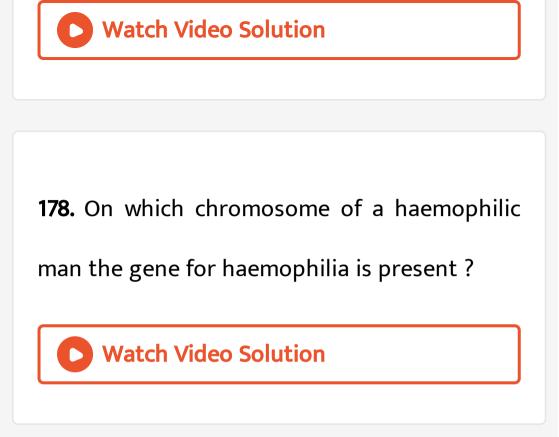


176. If the chromosomal composition of a woman is 44 autosomes and X what syndrome she expresses ?

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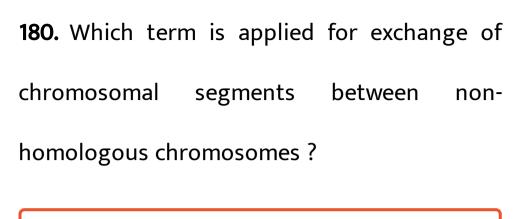
177. Which pattern of inheritance is seen in sex

linked characters ?



179. What term describes the changes in the

chemical structure of genes or DNA?



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181. Who proposed genic balance theory for

determination of sex in Drosophila?

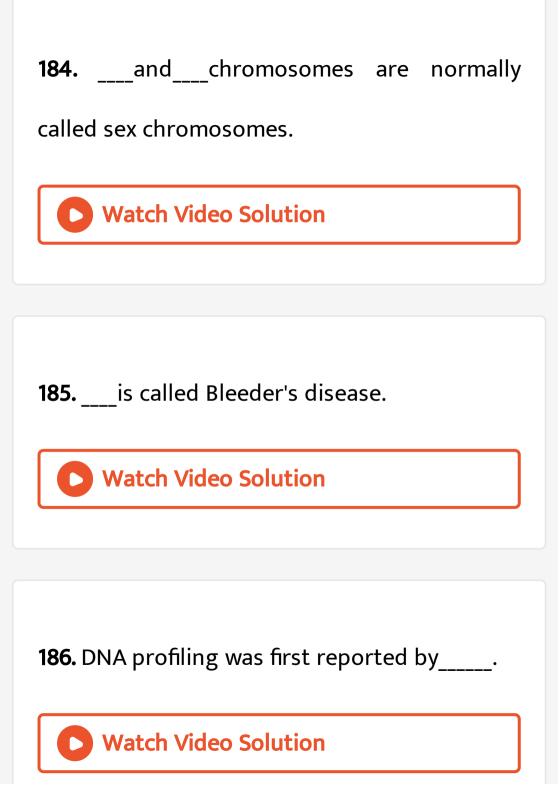
182. Fill In The blank : The phenotypic ratio and

genotypic ratio of monohybrid test cross is



183. Chiasma formation occurs in____stage.





187. DNA profiling uses repetitive sequences

that are highly variable called_____.



188. In PKU, there is no synthesis of enzyme_____.

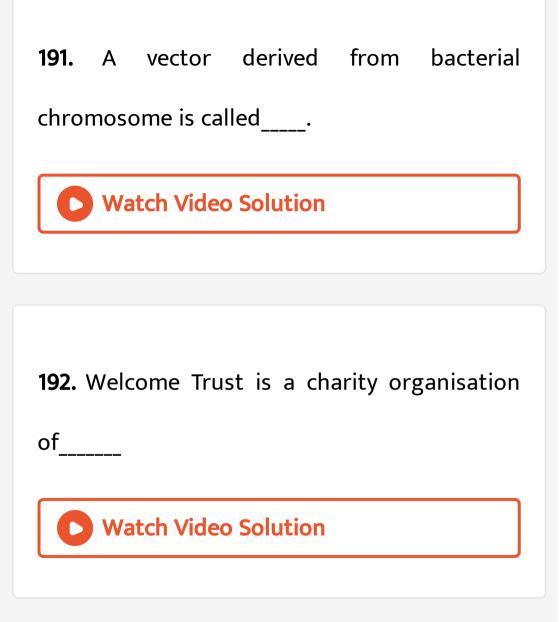
189. The recessive genes which are responsible for colour blind are present in___arm of X-chromosome.



190. _____is considered as a megaproject for

determining sequency of base pairs in DNA.





193. The number of genes in human genome is____. Watch Video Solution **194.** About % of human DNA sequence are same every person. Watch Video Solution

195. ____technique is used for parental testing

and criminal investigation.

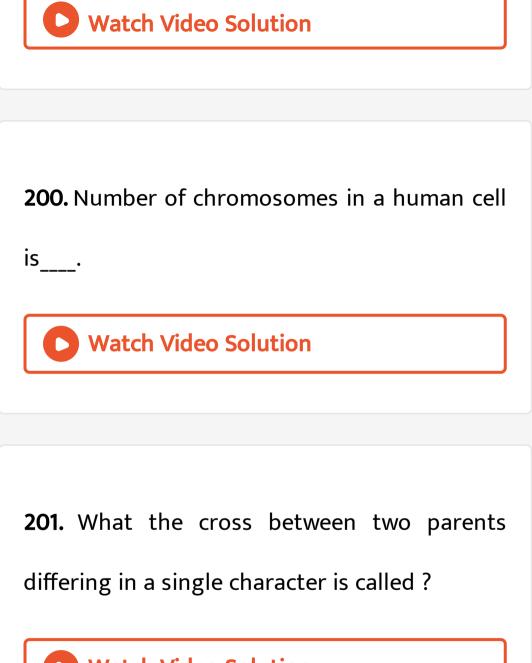
Watch Video Solution

196. Which procedure is followed for

amplification of DNA?

197. DNA fragments can be separated and detected using . Watch Video Solution **198.** The change of the genetic materials is called . Watch Video Solution

199. Holandric genes are located in____.



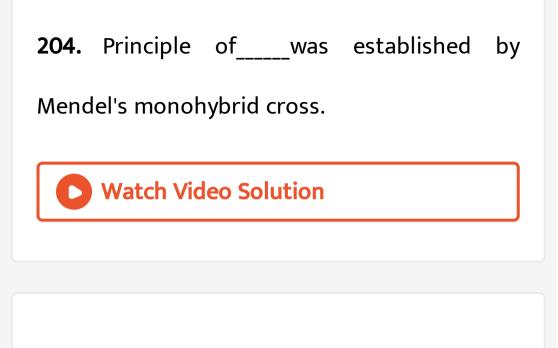
202. What is the genotypic ratio in F_2 OF

Mendelian monohybrid cross?



203. A cross between hybrid with a double

recessive pure plant is called ____



205. The law derived from Mendel's dihybrid

cross is____.



206. A plant with Rr genotype is crossed with a

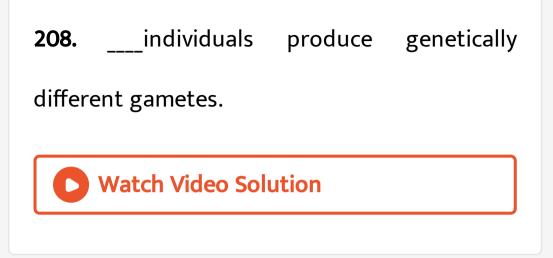
plant with rr genotype, the ratio of Rr and rr

genotypes will be____in the next progeny.



207. _____is the physical basis of heredity.





209.____individuals produce genetically similar

gametes.



210. The checker board used in genetic crosses

is called_____.

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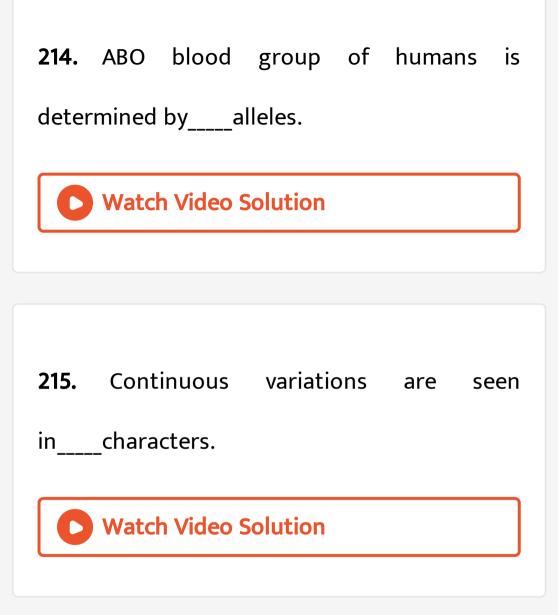
211. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are some as 1 : 2 : 1. It represents a case

of

212. Inheritance of a trait determined by cumulative effect of two or more non-allelic gene pairs is called_____.

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213. A plant with genotype AaBbCc will produce___number of gametes.



216. Suddenly appearing large and stable variations in organisms is called____.

Watch Video Solution

217. The trait which remains hidden in the

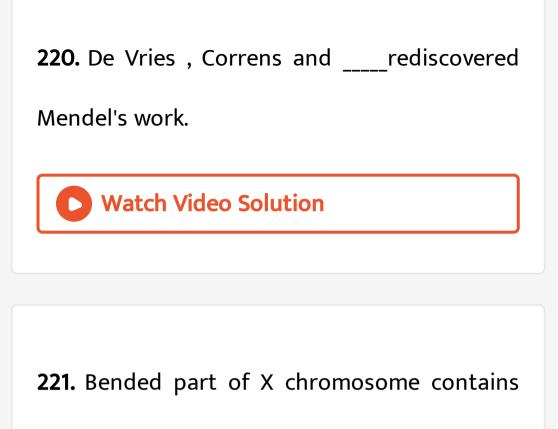
heterozygotes is called_____.

218. Who proposed chromosome theory for heredity?
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219. The pigment responsible for skin colour of

humans is____.





testis determining genes.



222. Drone is a fertile female.



223. Free martin in humans develop due to hormonal influence.

Watch Video Solution

224. Total number of chromosomes in human

female is 36.

225. A part of chromosome (eukaryotic) is

called gene.



226. Alec Jeffreys determined the sequence of

amino acids in proteins.

227. In humans, autosomes carry genes for

determining sex.

Watch Video Solution

228. Crossing over occurs during leptotene

stage of meiosis.



229. Synapsis occurs during pachytene stage

of meiosis.

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230. The karyotype of Klinefelter syndrome is

45+XXY=48



231. The principles behind inheritance is called

heredity.

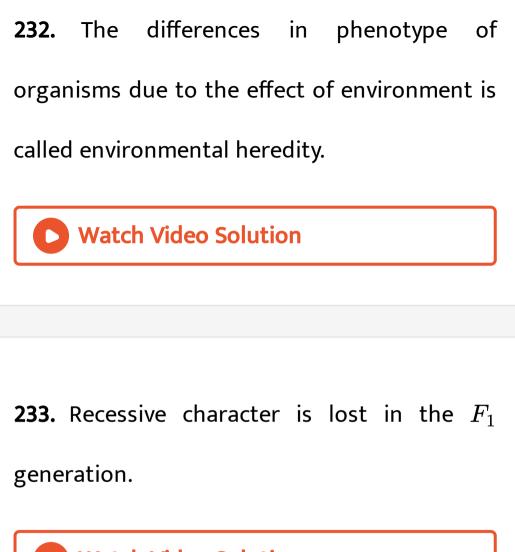
A. True

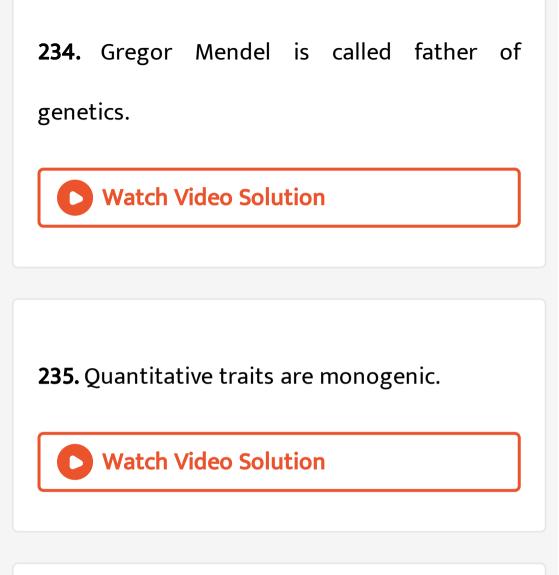
B. False

C.

D.

Answer:





236. Law of purity of gamete was derived from

dihybrid cross.



237. The checker board used to determine the genotypes of offspring is called Mendel square.



238. Back cross is a test for genotype of an

organism with dominant phenotype.

239. Phenotypic ratio and genotypic ratio are

the same in case of multiple allelism.

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240. ABO blood group of humans is a case of

quantitative inheritance.

241. Mention the advantages of selecting pea

plant for experiment by Mendel.



242. Explain the law of dominance using a monohybrid cross.



243. Define and design a test-cross.

244. 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

245. When a cross is made between tall plant with yellow seeds(TtYy) and tall plant with green seed (Ttyy), what proportions of phenotype in the offspring could be expected tp be

tall and green

dwarf and green

246. Briefly mention the contribution of T.H.

Morgan in genetics.

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247. What is pedigree analysis ? Suggest how

such an analysis can be useful ?



248. How is sex determined in human beings ?



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

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250. Write notes: Incomplete dominance

251. What is point mutation ? Give one example.



252. Mention any two autosomal genetic disorders with their symptoms.

253. Mention with graphic representation the phenotypic ratio of offspring when a colourblind woman marries a normal man.



254. Give the chromosomal theory of linkage.



255. What is a Barr body ? What is its significance ?

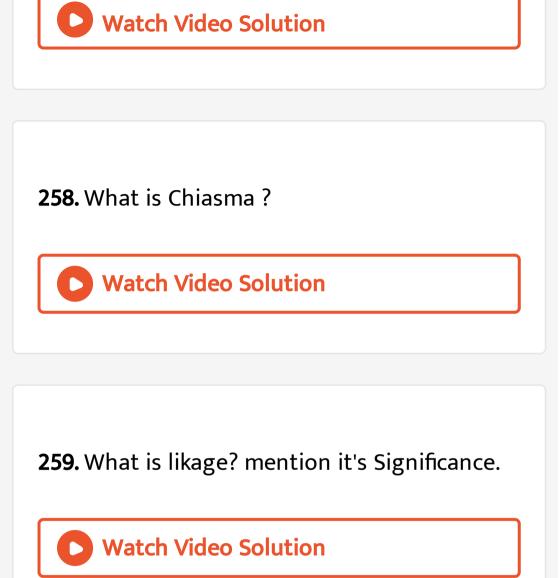
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256. Explain inheritance of colourblindness in

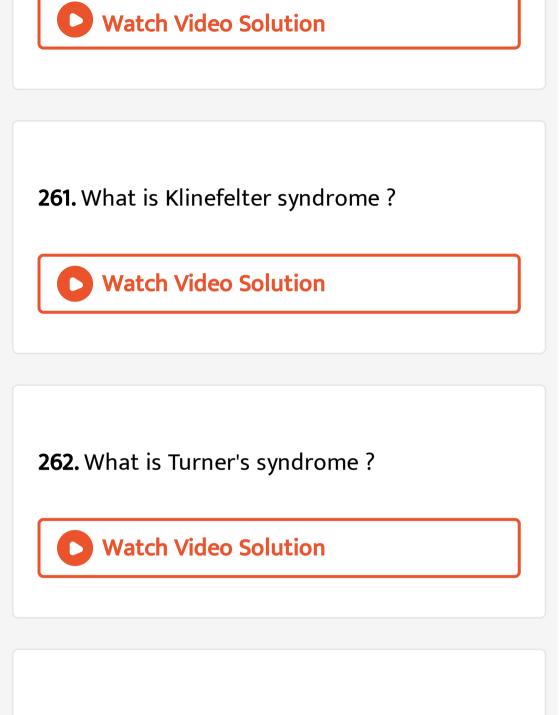
human.



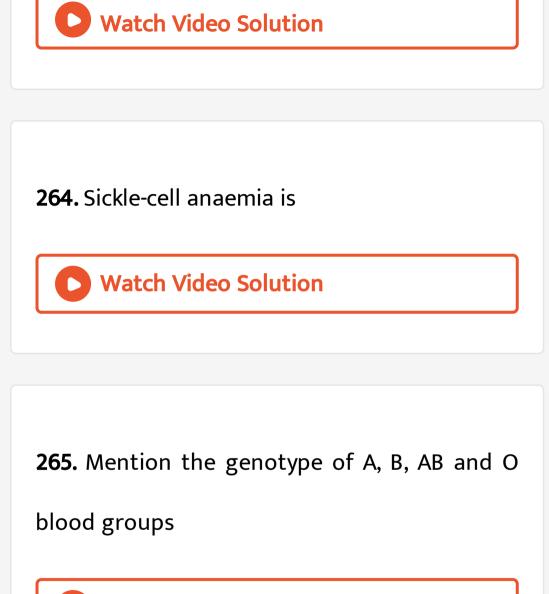
257. Explain inheritance of haemophilia.



260. What do you mean by phenylketonuria?



263. What is Down's syndrome ?



266. Who proposed genic balance theory for

determination of sex in Drosophila?

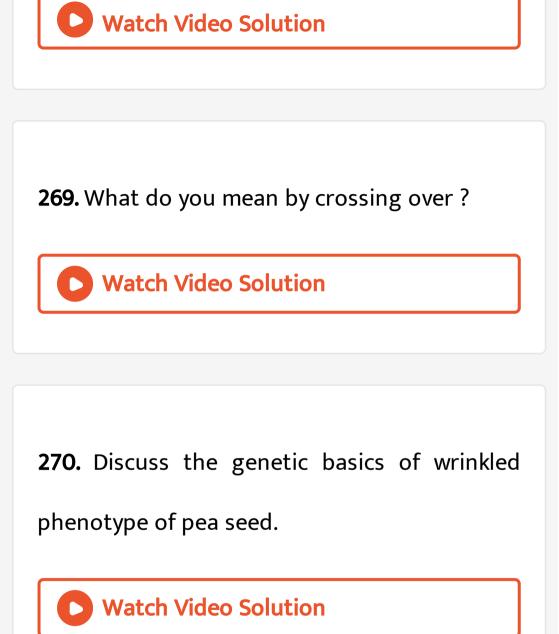
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267. What do you mean by complete linkage ?

Give two examples.



268. Explain 'linkage group'.



271. How does a mutagen induce mutation ?

Explain with example.

Watch Video Solution

272. Can a child have blood group o if his

parents have blood group A and b. Explain.



273. Why is the frequency of red-green colour-

blindness is many times higher in males than

that in females ?



274. If a father and son are both defective in

red-green colour vision, is it likely that the son

inherited the trait from his father ? Comment.



275. Distinguish between:Incomplete

dominance and co-dominance



276. It is said that the harmful alleles get eliminated from population over a period of time, yet sickle cell anaemia is persisting in human population. Why?



277. DISTINGUISH BETWEEN: Genotype and

phenotype



278. DISTINGUISH BETWEEN: Homozygous and

heterozygous

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279. DISTINGUISH BETWEEN: Monohybrid and

dihybrid cross



280. DISTINGUISH BETWEEN: Test cross and

back cross

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281. DISTINGUISH BETWEEN:Complete and

incomplete dominance

282. DISTINGUISH BETWEEN: Qualitative and

quantitative inheritance



283. DISTINGUISH BETWEEN:Dominant

characters and Recessive characters

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284. WRITE SHORT NOTES ON: Variation



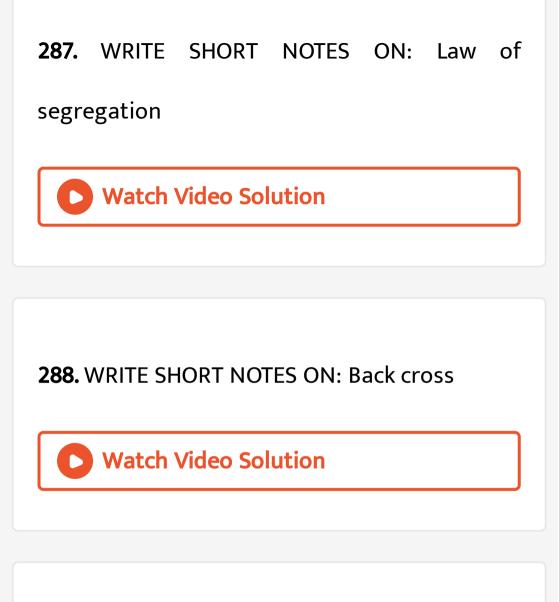


285. WRITE SHORT NOTES ON: Monohybrid

cross

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286. WRITE SHORT NOTES ON: Dihybrid cross



289. WRITE SHORT NOTES ON: Test cross

290. WRITE SHORT NOTES ON: Chromosome

theory of inheritance



291. WRITE SHORT NOTES ON: Incomplete

dominance

292. WRITE SHORT NOTES ON: Multiple allelism



293. WRITE SHORT NOTES ON: Quantitative

inheritance

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294. WRITE SHORT NOTES ON: Genotypes of A,

B, AB and O blood groups

295. A normal visioned woman, whose father is colourblind, marries a normal visioned man. What would be probability of her sons and daughters to be colourblind ? Explain with the help of a pedigree chart.

296. Explain Mendel's monohybrid cross and

discuss the law of purity of gametes.



297. What is the law of independent assortment ? Explain the law by Mendel's dihybrid cross.

298. Describe Mendel's monohybrid and dihybrid experiment and state the laws derived from them.



299. State and explain Mendel's laws of inheritance.



300. Explain chromosomal theory of sex determination.

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301. Give an account of sex linked inheritance

in humans.



302. What is sexlinked inheritance ? Explain

inheritance of haemophilia in man.

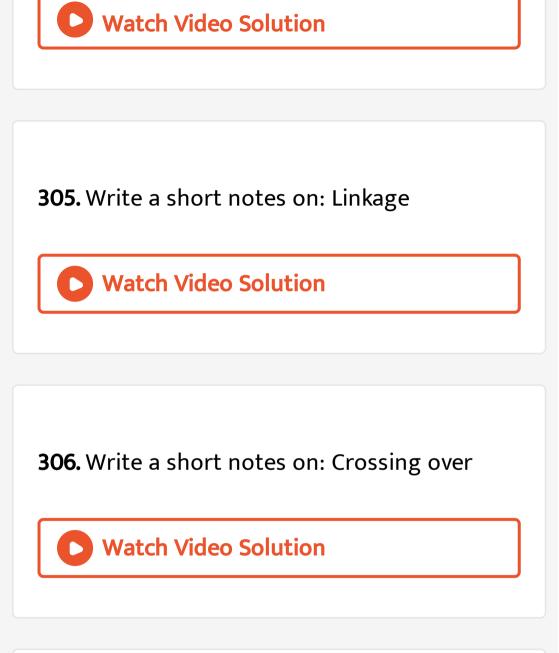
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303. Explain inheritance of colourblindness in

human.



304. Explain chromosomal disorders in man.



307. Write a short notes on: Haemophilia

