



BIOLOGY

BOOKS - MODERN PUBLICATION

SEX DETERMINATION

Exercise

1. A cross between F_1 -hybrid and a recessive parent gives the ratio of

A. 3:1

B. 2:1

C. 1:1

D. 1:3

Answer:



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2. A cross of F_1 with the recessive parent is known as

A. Test cross

B. Back cross

C. Hybrid

D. Double cross

Answer:



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3. The examples of XY linked gene inheritance

is :

A. Xeroderma pigmentosa

B. Colour blindness

C. Haemophilia

D. Hypermetropia

Answer:



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4. A person having 45 chromosomes and Y-chromosomes absent is suffering from :

- A. Down's syndrome
- B. Klinefelter's syndrome
- C. Turner,s syndrome
- D. Gynandromorph

Answer:



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5. Haemophilia is a :

- A. Deficiency disorder

B. Y-linked disorder

C. X-linked disorder

D. Autosomal disorder

Answer:



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6. Christmas disease is another name for :

A. Sleeping sickness

B. Haemophilia-B

C. Hepatitis-B

D. Down's syndrome

Answer:



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7. A woman with 47 chromosomes due to three copies of chromosome 21 is characterized by :

A. Down's syndrome

B. Triploidy

C. Turner's syndrome

D. Super maleness

Answer:



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8. Edward's Patau's Down's syndrome are due

to :

A. Change in autosomes

B. Change is sex chromosomes

C. Mutation due to malnurtition

D. Both change in sex chromosome and
autosomes

Answer:



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9. If a colourblind woman marries a normal visioned man, their sons will be:

A. Three-fourth colourblind and $1/4$ normal

B. All colourblind

C. All normal visioned

D. $1/2$ colourblind and $1/2$ normal

Answer:



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10. A normal visioned man, whose father was colourblind, marries a woman whose father was also colourblind. They have their first child

as a daughter. What are the chances that this child would be colourblind ?

A. 100°

B. 0°

C. 25°

D. 50°

Answer:



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11. A man, whose father was colourblind, marries a woman who had a colourblind mother and a normal father. What percentage of male children of this couple will be colourblind?

A. 25%

B. 0%

C. 50%

D. 75%

Answer:



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12. A colourblind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandsons being colourblind ?

A. 0.5°

B. 1°

C. Nil

D. 0.25°

Answer:



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13. Which of the following most appropriately describes haemophilia ?

- A. X-linked recessive gene disorder
- B. Chromosomal disorder
- C. Dominant gene disorder
- D. Recessive gene disorder

Answer:



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14. 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:



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15. X and Y- chromosomes are called :

A. Sex chromosomes

B. Androsomes

C. Autosomes

D. G

Answer:



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16. Which one is a sex-linked disorder?

A. Leukemia

B. Nightblindness

C. Cancer

D. Colour blindness

Answer:



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17. A haemophilic man marries a normal homozygous woman. What is the probability that their son will be haemophilic?

A. 100°

B. 50°

C. 75°

D. 0°

Answer:



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18. A fruitfly exhibiting both male and female trait is

- A. Heterozygous
- B. Hemizygous
- C. Gynandromorph
- D. Homozygous

Answer:



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19. A haemophilic man marries a normal homozygous woman. What is the probability that their son will be haemophilic?

A. 0°

B. 50°

C. 75°

D. 100°

Answer:



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20. Genes located on Y-chromosome are

- A. Mutant gene
- B. Holandric genes
- C. Autosomal genes
- D. Sex-linked genes

Answer:



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21. A colourblind person cannot distinguish

A. All colours

B. Green colour

C. Red colour

D. Red and green colour

Answer:



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22. Which chromosome carries the haemophilic genes ?

A. Y

B. X

C. Both X and Y

D. Autosomes

Answer:



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23. Red-green colour blindness in man is.

- A. Sex linked characters
- B. Sex-influenced characters
- C. Sex-limited characters
- D. Sexual character

Answer:



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24. Sex-linked characters are

A. Dominant

B. Recessive

C. Lethal

D. Codominant

Answer:



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25. Which gene is present in the Y-chromosome that codes for the protein TDF?

A. Cry

B. Sry

C. Tra

D. Try

Answer:



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26. What type of sex determination seen in birds ?

A. $XX - XY$

B. $ZW - Z$

C. $XX - XO$

D. $Z - ZO$

Answer:



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27. When the ratio of $X/A=0.67$ in genic balance theory, which type of sex is expressed?

A. Super female

B. Super male

C. Intersex

D. Triploid female

Answer:



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28. Which type of sex-determination is found in Bonellia?

A. Temperature dependent

B. Holandric genes

C. Chemotaxic

D. Pseudoautosomal

Answer:



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29. In a person with Turner syndrome, the number of X-chromosome is

A. 1

B. 3

C. 2

D. 0

Answer:



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30. A Down syndrome will be

A. $45 + XX$

B. $44 + XXY$

C. $44XXY$

D. $22 + XY$

Answer:



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31. Number of Barr bodies present in Turner's syndrome is

A. 0

B. 2

C. 1

D. 3

Answer:



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32. XX-XY type of sex determination is found in which animal.

A. Human and Drosophila

B. Birds

C. Reptiles

D. Honeybees

Answer:



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33. Inactivated X-chromosome is termed as :

A. Autosome

B. Barr body

C. Allosome

D. Single gene effect

Answer:



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34. Which of the following types of sex determination is found in grasshopper ?

A. $XX - XY$

B. $ZW - Z$

C. $XX - XO$

D. Haplo-diploids

Answer:



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35. What do you understand by sex-determination? Describe sex-determination in insects like grasshoppers and butterflies.

A. $Z - ZO$

B. $ZW - Z$

C. $XX - XY$

D. $XX - XO$

Answer:



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36. Free martin is due to

A. Sex reversal

B. Hormonal control of sex

C. Environmental control of sex

D. Chromosomal sex determination

Answer:



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37. Chromosome theory of XY sex determination was proposed by

A. Medel

B. Hugo-de-Vries

C. Wilson and Stevens

D. Henking

Answer:



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38. X-chromosome was discovered by :

A. Morgan

B. Henking

C. Stevens

D. Mendel

Answer:



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39. Failure of separation of homologues is called_____

A. Disjunction

B. Mutation

C. Non-disjunction

D. Single gene effect

Answer:



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40. Monogloid idiocy in human is also known as :

A. Tay Sachs disease

B. Klinefelter's syndrome

C. Down's syndrome

D. Turner's syndrome

Answer:



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41. A woman has an X-linked condition on one of her X-chromosomes. This chromosome can be inherited by :

A. Only daughters

B. Only sons

C. Only grand children

D. Both sons and daughters

Answer:



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42. Who proposed the chromosome theory of sex determination ?



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43. From which parents male inherits X-chromosome ?



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44. Down's syndrome is the result of trisomy of which chromosome ?



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45. Trisomy of which chromosome is responsible for Edward's syndrome ?



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46. Absence of which chromosome causes Turner's syndrome ?



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47. Which chromosome is called Androsome ?



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48. Male members of bees possess how many haploid set of chromosomes ?



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49. Who first observed the sex chromosomes ?



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50. Who first discovered the sex-linked inheritance ?



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51. Which disease is called Royal disease ?



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52. On which chromosome of man holandric genes occur ?



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53. Haemophilia B is otherwise called what disease ?



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54. Name the chromosome disorder which causes due to Robertsonian Translocation .



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



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56. How many autosomes present in human sperm ?



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57. In which mammal the barr body was first discovered ? From which cell ?



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58. What are the sex chromosomes otherwise called ?



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



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60. Name the sex chromosomes in man.



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61. Which syndrome is expressed if a man has chromosome constitution 44 autosome and XXY ?



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



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63. Which pattern of inheritance is seen in sex linked characters ?



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64. On which chromosome of a haemophilic man the gene for haemophilia is present ?



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65. On which chromosome of a haemophilic man the gene for haemophilia is present ?



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66. In sickle cell haemoglobin which amino acid replaces glutamic acid?



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67. Who proposed the genic balance theory?



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68. What term is used for genes located in the homologous part X and Y-chromosomes ?



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69. The karyotype of Klinefelter syndrome is
 $45+XXY=48$



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70. What is the other name of red -green colour blindness?



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71.

Name the chromosome linked with hypertrichosis.



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72. Which type of inheritance is seen in Haemophilia / Colourblindness?



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73. ___ and ___ chromosomes are normally called sex chromosomes.



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74. ___ is called Bleeder's disease.



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



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76. The recessive genes which are responsible for colour blind are present in____arm of X-chromosome.



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77. Holandric genes are located in_____.



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78. Number of chromosomes in a human cell is_____.



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79. Explain chromosomal theory of sex determination.



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80. Gonadal sex determination occurs by differentiation of _____.



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81. Phenotypic sex determination occurs by gondial _____.



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82. Sex is an aggregation of morphological, physiological and _____ characters.



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83. Development of an egg without fertilization is called:



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84. Sex chromosomes are otherwise called _____.



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85. _____ hypothesis is related to inactivation of one X-chromosome in female.



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86. Name the genes located on Y - chromosome of man.



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87. What is the role of antimullerian hormone?

Where is it secreted from?



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88. Development of testis is caused by expression of _____ genes.



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89. If a salt bridge is removed from the two half cell, the voltage:



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90. Platypus has _____ sex chromosomes.



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91. FILL UP THE BLANKS : The process by which the unfertilized egg develops into a complete

embryo is called ____.



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92. In Bonellia,.....type of sex-determination is found.



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93. What is the role of AMH during the development of a foetus ?



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94. *Drosophila* is commonly called _____.



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95. _____ is the most familiar type of sex determination.



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96. The cell of XX embryo secretes _____ which drive the body towards female pathway.



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97. How Down's syndrome is caused?



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98. Banded part of X chromosome contains testis determining genes.



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99. Drone is a fertile female.



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



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101. Total number of chromosomes in human female is 36.



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102. A part of chromosome (eukaryotic) is called gene.



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103. In humans, autosomes carry genes for determining sex.



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104. The karyotype of Klinefelter syndrome is
 $45+XXY=48$



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105. The pattern of sex determination in protenor bug is $XX - XY$ type.



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106. The pattern of sex determination found in *Drosophila* is 'ZW-ZZ'



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107. The sex chromosomes in male grasshopper is XX.



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108. What type of sex determination seen in birds ?



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109. The sex chromosomes in female butterfly is XX.



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110. Fill In The blank : The phenomenon of Linkage was discovered by



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111. Sunlight proteins are albumins.



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112. Deuteranopia is blueblindness.



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113. Titanopia is whiteblindness.



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114. Protononia is greenblindness.



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115. A gamete with any sex chromosome is called heterogametic.



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116. In *Drosophila* XO is a sterile female.



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117. Non-sex chromosomes are called allosomes.



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



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119. What is Free martin?



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120. Genic Balance Theory.



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121. What is gynandromorph?



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122. Single gene effect



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123. Explain chemotactic sex determination.

/Explain sex determination in Bonellia.



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124. Sex reversal



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125. What is thalassemia? Explain its types.



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126. What is criss-cross inheritance?



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127. Write the symptoms of Down's syndrome.



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128. What is Turner's syndrome ?



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129. What is Klinefelter syndrome ?



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130. What do you mean by phenylketonuria ?



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131. Write note on Sickle cell anaemia.



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132. Differentiate between Autosomes and Allosomes.



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133. Differentiate between Turner's syndrome and Klinefelter's syndrome. (Restrict to 3 or 4

important sentences)



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134. Differentiate between: Phenotype and genotype



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135. X-chromosome and Y-chromosome.



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136. Differentiate between Super male and Super female.



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137. Gynandromorph and Freemartin



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138. Explain chromosomal theory of sex determination.



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139. What is sexlinked inheritance ? Explain inheritance of haemophilia in man.



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140. What is sex linked haemophilic mother and normal father.



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141. Give an account of sex linked inheritance in humans.



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142. Explain chromosomal disorders in man.



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143. Write a short notes on: Haemophilia



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144. Write short note on Colourblind.



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145. Write short note on Down's syndrome



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146. Write short note on AIDS



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147. Write short note on Turner's syndrome.



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