



BIOLOGY

BOOKS - SHARAM PUBLICATION

GENETICS & EVOLUTION(Sex Determinatin)

Exercise

1. Which one is a sex-linked disorder?

A. Leukemia

B. Cancer

C. Night blindness

D. colour blindness

Answer:



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2. A hemophilic Man Marries a normal homozygous woman. What is the probability that their son will be hemophilic?

A. 1

B. 0.5

C. 0.75

D. 0

Answer:



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3. 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. Test cross

B. A cross involving sex linked traits

C. Monohybrid cross in which homozygous dominant alleles become lethal

D. None of these

Answer:



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

A. 1

B. 0.5

C. 0.75

D. 0

Answer:



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5. A fruitfly exhibiting both male and female trait is

A. Heterozygous

B. Gynandro Morph

C. hemizygous

D. Gynander

Answer:



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6. A colourblind person cannot distinguish

A. All colours

B. Green

C. Red

D. Red & Green

Answer:



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

A. 0

B. 2

C. 1

D. 1 or 2

Answer:



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8. A Down syndrome will be

A. 45 +XX

B. 44 + XY

C. 44 + XXY

D. 22 + XY

Answer:



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9. Translocation of a portion of chromosome 21 results into a condition known as

- A. Down's Syndrome
- B. Cri-du-chat Syndrome
- C. Philadelphia Syndrome
- D. Kline Felter's Syndrome

Answer:



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

A. 1

B. 2

C. 3

D. 0

Answer:



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

A. Monozygous

B. Heterozygous

C. Multizygous

D. Homozygous

Answer:



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12. The gene responsible for haemophilia is linked to which chromosome?

A. X'

B. Y'

C. both 'X' & 'Y'

D. Autosomes

Answer:



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13. A person with sex chromosomes XXY suffers from :

- A. Down's Syndrome
- B. Turner's syndrome
- C. Klinefelter's syndrome
- D. Sturge- Weber syndrome

Answer:



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14. A husband and wife have normal vision but fathers of both of them were colour blind. Probability of their first daughter to be colour blind is

A. 0.25

B. 0.5

C. 0.75

D. 0

Answer:



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15. In Klinefelter's syndrome, the sex chromosome complement is

A. XXY

B. XO

C. XYY

D. XXX

Answer:



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16. The gene responsible for haemophilia is linked to which chromosome?

A. X'

B. Y'

C. both 'X' & 'Y'

D. Autosomes

Answer:



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17. Human syndrome with tall stature, mental defects and antisocial behaviours is

A. XYY Syndrome

B. Kline felter's syndrome

C. Down's Syndrome

D. Turner's syndrome

Answer:



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18. Red-green colour blindness in man is.

A. Sex linked character

B. sex limited charcter

C. sexual charcter

D. None

Answer:



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

- A. Hybrid
- B. Phenotype
- C. Pure line
- D. Alleles

Answer:



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20. Which will result in haemolysis in foetus?

A. AO incompatibility

B. AB incompatibility

C. Rh incompatibility

D. All of these

Answer:



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21. Down's syndrome is caused by an extra copy of chromosome number 21. what percentage of offspring produced by an affected mother and a normal father would be affected by this disorder ?

A. 0.25

B. 1

C. 0.75

D. 0.5

Answer:



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22. As per Genic Balance theory, which ratio refers to super female?

A. 1.5

B. 1

C. 0.66

D. 0.5

Answer:



23. Fill in the blanks with correct answer:

Trisomy 21st chromosome in human male leads to_____ syndrome.

- A. Klinefelter's syndrome
- B. Turner's syndrome
- C. Sickle cell anaemia
- D. Down's syndrome

Answer:



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24. Number of autosome in human sperm is ---

A. 11

B. 22

C. 44

D. 45

Answer:



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25. Match the condition with chromosomal abnormality or linkage

A. Colour blindness - y- linked

B.

C. Klinefelter's syndrome - 44 + XXY

D. Down's syndrome - 44 + XO

Answer:



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26. Colour blindness is more likely to occur in males than females because

- A. Genes for this character are located on the X- chromosome
- B. The trait is dominant in males and recessive in females
- C. Some males suffer from deficiency of vitamin A
- D. The Y- chromosome of males have the genes for distinguishing colours

Answer:



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27. Sex-linked characters are

- A. Dominant
- B. Recessive
- C. Lethal
- D. not inherited

Answer:



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28. The best method to improve the genetic quality of mankind is ----

- A. Marriage restrictions
- B. Sterilizations
- C. Control of immigrations
- D. Sexual separation of defectives

Answer:



29. Genes for colour blindness in man are located on ----

- A. X- chromosome only
- B. Y - chromosomes only
- C. Either X or Y chromosome
- D. Both X and Y chromosome

Answer:



30. Down's syndrome is due to---

A. Trisomy

B. Nullisomy

C. Gene mutation

D. Monosomy

Answer:



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31. Chromosome theory of XY sex determination was proposed by

A. Henking

B. Wilson and Stevens

C. Johannsen

D. Punnett

Answer:



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32. A supermale has a genetic constitution of

A. XY

B. XXY

C. XXYY

D. XYY

Answer:



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33. Persons with Klinefelter's syndrome have chromosome

A. XX

B. XY

C. XXY

D. XYY

Answer:



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34. In human beings, 45 chromosomes / single X/ XO abnormality causes

- A. Down's Syndrome
- B. Klinefelter's syndrome
- C. turner's syndrome
- D. edward's syndrome

Answer:



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35. How many genes does a child receive from its father?

A. 0.25

B. 0.5

C. 0.75

D. 1

Answer:



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36. True character of sex linked inheritance is:

A. it is transmitted from father to son

B. It is transmitted from mother to daughter

C. It is transmitted from grand father to grandson through his daughter

D. None

Answer:



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37. _____ is a cytological difference between the male and female cells of humans.

- A. Golgibodies
- B. Barr bodies
- C. None
- D. None of these

Answer:



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38. Webbed neck is characteristic of

A. XXX

B. YY

C. XXYY

D. XO

Answer:



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39. Down's syndrome in human is caused due to

- A. trisomy-18
- B. trisomy - 13
- C. trisomy - 21
- D. None of these

Answer:



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40. Mongolism is:

- A. turner's syndrome
- B. Kline felter's syndrome
- C. Down's Syndrome
- D. Hypothalamic synfrome

Answer:



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41. The son receives X-chromosome from—

A. male

B. female

C. both

D. None of these

Answer:



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42. Down's syndrome is due to---

A. Crossing over

B. Linkages

C. sex-linked inheritance

D. non- desjunction of chromosomes

Answer:



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43. Name two sex-linked diseases of human being.

A. Colour blindnedd / Haemopgilia

B. Night blindness/ Albinism

C. myxodema / beri-beri

D. Deafness/ tylosis

Answer:



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44. Who first discovered the sex- linked inheritance ?

A. Morgan

B. Khorana

C. Pasteur

D. Von Helmont

Answer:



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45. Which is true in case of honey bee?

A. Male dipliod, Female haploid

B. Male diploid, female diploid

C. Male haploid, female haploid

D. male haploid , Female diploid

Answer:



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46. Foetal sex can be determined from cells present in amniotic fluid by looking for

A. kinetochores

B. chiasmata

C. Barr bodies and sex chromosomes

D. Autosomes

Answer:



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47. Free martin is due to

A. Sex reversal by gene

B. Enviromental control of sex

C. Hormonal control of sex

D. sex determination by chromosome

Answer:



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48. Sex-linked characters are

A. Lethal

B. Recessive

C. Dominant

D. Pleiotropic

Answer:



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49. A colourblind person cannot distinguish

- A. All colours
- B. red
- C. green
- D. Red & Green

Answer:



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50. a human male has one barr body in his nuclei. The chromosome constitution must be

A. XO

B. XXY

C. XXYY

D.

Answer:



51. The genes for diabetes mellitus is

- A. Autosomal dominant
- B. autosomal recessive
- C. Sex linked dominant
- D. Sex linked recessive

Answer:



52. The chromosomal basis of sex determination was discovered in

- A. Rumex
- B. Melandrium
- C. Coccinia
- D. Sphaerocarpus

Answer:



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53. Which one is not a hereditary disease?

A. Thalassaemia

B. Cretinism

C. haemophilia

D. Cystic fibrosis

Answer:



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54. Give one example of sex-linked disease?



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55. Who profounded genic balance theory?



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56. How many genes does a child receive from its father?



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57. 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 ?



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58. Who discovered turner's disease?



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59. Fill up the blank

Fathers pass their X chromosomes to _____



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60. Fill in the blanks:-

Chromosomal basis of inheritance was proposed by Sutton and _____.



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61. Fill up the blank

Colourblindness is a _____ hereditary disease.



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62. Fill up the blank

Arrangement of sex chromosomes in klinefelter's syndrome is _____



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63. Fill up the blank

A son will be born when foetus has _____
chromosomes.



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64. Correct the underlined portions.

Gene for colour blindness is present in Y
chromosomes.



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65. Correct the underlined portions.

Hoemophilia is another name for colour blindness.



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66. Correct the underlined portions.

Loss of a particular pair of chromosome i.e. $2n-2$ is seen in trisomics.



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67. Correct the underlined portions.

Down syndrome is caused by an extra chromosome 20.



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68. Correct the underlined portions.

Thalassemia is a genetic disease related with haemocyanin.



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Example

1. Which type of inheritance is seen in Haeophilia / Colourblindness?



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2. Which type of trait is generally found in sex-linked inheritance/



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3. What are carries?



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4. What is Klinefelter syndrome ?



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5. Name two sex-linked diseases of human being.



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6. Who proposed the chromosome theory of inheritance?



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7. What is the chromosomal formula for Turner's syndrome?



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8. How Down's syndrome is caused?



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9. Do the genes of the X and Y chromosomes determine only sex characteristics?



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10. In which chromosome is the gene for haemophilia located?



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11. In which syndrome a barr body is absent?



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



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13. In which syndrome the person is phenotypically male?





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14. What is the chromosomal formula for Turner's syndrome?



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15. Name the scientist who discovered Down's syndrome.



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16. What is the chromosome constitution of super females?



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17. What the female is said to be when both the X chromosomes are carrying colour blindness gene?



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18. Which sex is usually a carrier?



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19. In which chromosome, the factors for haemophilia and colour blindness are found?



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20. Sex linked character is transmitted by which chromosome?



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



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22. ZZ/ZW type of sex-determination is seen in



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23. Who coined the term chromosome ?



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24. Who first discovered chromosomes?



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25. Who proposed the genic balance theory?



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26. Answer the following question in one word only.

What is the unit of inheritance?



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27. What are holandric genes?



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28. Sickle cell anemia, a genetic disorder, is caused due to which reason?



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29. Addition or deletion of one or more chromosome to a set of chromosome is called?



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30. What is the chromosome constitution of super females?



Watch Video Solution

31. In which chromosome, the factors for haemophilia and colour blindness are found?



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32. Name two sex-linked diseases of human being.



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



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34. Give an example of Y-linked inheritance.



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35. What is produced by the gene SRY (sex determining region)?



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36. Whether the haemophilic gene is dominant or recessive ?



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37. What will produce a cross between colour blind man and homozygous normal woman?



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38. What is the other name of Bleeder's disease?



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39. Down's syndrome is due to of chromosome 21.



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40. Down's syndrome is due to---





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41. Fill up the blank

No. of _____-bodies in Klinefelter's syndrome is one.



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42. Haemophilia B is otherwise called what disease ?



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43. Fill up the blank

The example of autosomal abnormality is _____ syndrome.



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44. Fill up the blank

Chromosomal theory of heredity was proposed by _____ in 1902.



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45. Fill up the blank

Baldness in man is _____ character.



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46. Fill up the blank

Transfer of sex-linked recessive character from father to grandson through daughter is called _____ inheritance.



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47. Gene for haemophilia is —



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48. ZZ/ZW type of sex-determination is seen in



[Watch Video Solution](#)

49. Red-green colour blindness in man is.



[Watch Video Solution](#)

50. Fill up the blank

_____bodies help in determining sex of early embryo .



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51. Who proposed the chromosome theory of sex determination ?



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52. Fill up the blank

_____genes are 'Y' linked gene.



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53. Correct sentences if required

Turner's syndrome disease was first studied by John cotto in 1803.



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54. Correct sentence if required

R.B.C. of patient becomes sickle-shaped in phenylketonuria disease.



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55. Correct sentence.

Hypertrichosis is a X-linked trait.



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56. Correct sentence.

DNA fragments separated by a technique called as isolation.



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57. What is sex-linked inheritance?



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58. Correct sentence.

Colourblindness is an autosomal hereditary disease.



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59. Correct sentences by changing underlined words.

The genes which are loated on Y chromosomes are called sex linked genes.



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60. Correct sentence.

Genic balance theory was proposed by Baltzer in 1921.



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61. Correct sentence.

In honeybee, male has 32 chromosomes.



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62. Correct sentence.

Sterile females in honey bee are queen.



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63. Correct sentences by changing underlined words.

Thalassemia is an crossing over disorder.



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64. Correct sentence.

The sex mostly affected by hemophilia is female.



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65. Correct sentence.

The sex -ratio of 1 is a super male.



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66. State ZW- ZZ method of chromosomal sex determination.



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67. Using an example , explain why some traits are more likely to show up in a men than in women?



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68. What is criss-cross inheritance?



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69. Genic Balance Theory.



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70. Write the symptoms of Down's syndrome.



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71. What is sex-linked inheritance?



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72. Explain sex-influenced traits?



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73. What is sex-linked inheritance?



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74. What is Barr body?



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75. What is genetic drift?



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76. What do you mean by Sex Chromosome?

How sex is determined in human being?



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77. Explain the term Turner's Syndrome.



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78. What is sex-linked inheritance?



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79. Give a note on Chromosome theory of Inheritance?



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80. Describe the characteristics of sex-linked inheritance and write about Y-linked traits in humans beings. Name any two disorders that occur due to sex-linked inheritance.



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81. Mention any two syndrome caused by autosomal variation?





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82. Monogenic and Polygenic inheritance



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83. Differentiate between: Phenotype and genotype



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84. Give an account of Thalassemia.



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85. What is Down's syndrome ?



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86. Give an account of sex linkage in *Drosophila* and man.



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87. Explain the chromosomal basis of sex-determination in animals.



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88. Explain chromosomal theory of sex determination.



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89. Genic Balance Theory.



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