BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA BIOLOGY (GUJRATI ENGLISH)

PRINCIPLES OF INHERITANCE AND VARIATION

Section A Exam Oriented Questions Answers From Darpan

1. Why do we study Genetics ? Give its historical background?

Watch Video Solution

2. Mention the contribution of Gregor Mendel ? Mention the reasons for his success.

Watch Video Solution

3. How does inheritance of one Gene take place ?

View Text Solution

4. Describe Mendel's Monohybrid experiment.

Watch Video Solution

5. With the help of Punnett square describe monohybrid experiment.

Watch Video Solution

6. Describe test cross.

Watch Video Solution

7. Describe various laws based on monohybrid experiment.

Watch Video Solution

8. Describe one gene inheritance.

 Watch Video Solution

9. Describe incomplete dominance.

 Watch Video Solution

10. Explain the concept of dominance.

 Watch Video Solution

11. Write short note on co-dominance.

Watch Video Solution

12. Explain Multiple Alleles / Dominance.

Watch Video Solution

13. Describe inheritance of two gene.

Watch Video Solution

14. State the law Independent Assortment and how it is derived ?

Watch Video Solution

15. Give the experimental verification of the chromosomal theory of inheritance.

Watch Video Solution

16. State a comparison between the behaviour of chromosomes and Genes.

Watch Video Solution

17. Give the experimental verification of the chromosomal theory of inheritance.

Watch Video Solution

18. Describe linkage and recombination in detail.

View Text Solution

19. Describe polygenic Inheritance.

Watch Video Solution

20. Write short note on pleiotropy.

Watch Video Solution

21. How is sex determined in Honey bee?

Watch Video Solution

22. What is heterogametic ? Explain by giving proper examples ?

Watch Video Solution

23. Describe the process of sex determination in humans.

Watch Video Solution

24. How is sex determined in Honey bee?

Watch Video Solution

25. Describe haploid diploid sex determination system?

Watch Video Solution

26. Write short note on Mutation.

Watch Video Solution

27. Describe pedigree analysis and draw its symbols.

Watch Video Solution

28. How Genetic disorders arises ? Explain by giving suitable examples.

Watch Video Solution

29. Describe Mendelian Disorder.

Watch Video Solution

30. Describe chromosomal disorder and describe its examples.

Watch Video Solution

31. Thalassemia and haemophilia categorised as Mendelian disorders.

Watch Video Solution

32. The traits are inherited through generations. This fact is based on the principles proposed by Mendel in 1865. However Mendel did not discovered this

principles of inheritance by studying human beings then how his principles are applied in case of humans.

Watch Video Solution

Section A Question

1. Why do we study Genetics ? Give its historical background?

Watch Video Solution

2. What is inheritance ?

Watch Video Solution

3. what is variation?

Watch Video Solution

4. How is sahiwal cow developed in punjab ?

Watch Video Solution

5. On which plant mendel has done his studies ?

Watch Video Solution

6. what is true breeding line?

Watch Video Solution

7. Which contrasting traits were studied by Mendel ?

Watch Video Solution

8. What is Filial_1 progeny ?

Watch Video Solution

9. What was the result of F_2 generation in the experiment of inheritance of one gene ?

Watch Video Solution

10. what is factor ?

Watch Video Solution

11. what is the unit of inheritance ?

Watch Video Solution

12. what is meant by homozygous gene ?

Watch Video Solution

13. Explain genotype and phenotype .

Watch Video Solution

14. what does monohydrid experiment explain us ?

Watch Video Solution

15. what is meant by hererozygous ?

Watch Video Solution

16. Mention genotypic ratio of monohybrid experiment .

Watch Video Solution

17. what is the importance of test cross ?

Watch Video Solution

18. Define and design a test cross.

Watch Video Solution

19. Describe various laws based on monohybrid experiment.

Watch Video Solution

20. How many laws were given by mendel base on monohybrid cross ?

Watch Video Solution

21. state mendel's monohybrid ratio .

Watch Video Solution

22. Name the flower used for the study of incomplete dominance..

Watch Video Solution

23. what are alleles ?

Watch Video Solution

24. what are alleles ?

Watch Video Solution

25. What is the importance of modified allele ?

Watch Video Solution

26. give the example of codomoinace .

Watch Video Solution

27. state the law of independent assortment.

Watch Video Solution

28. state mendel's monohybrid ratio .

Watch Video Solution

29. why was mendel's work rejected ?

Watch Video Solution

30. How was mendel's work rediscovered ?

Watch Video Solution

31. state the main points of chromosomal theory .

Watch Video Solution

32. why Morgan selected fly for its experiment ?

Watch Video Solution

33. what is linkage?

Watch Video Solution

34. what are linkage group ?

Watch Video Solution

35. Name the scientist who has done genetic mapping ?

Watch Video Solution

36. what is polygenic traits ?

Watch Video Solution

37. Describe inheritanace of skin colour .

Watch Video Solution

38. Name the alleles which will give darkest and lightest skin colour .

Watch Video Solution

39. what is pleiotropic gene ?

Watch Video Solution

40. What is sex determination? State the different methods of sex determination in animals.

Watch Video Solution

41. what are sex chromosome and autosome ?

Watch Video Solution

42. Explain sex determination in Grasshopper .

Watch Video Solution

43. What is sex determination? State the different methods of sex determination in animals.

Watch Video Solution

44. Explain sex determination in Grasshopper .

Watch Video Solution

45. How is sex determination mechanism different in the birds ?

Watch Video Solution

46. Describe the process of sex determination in humans.

Watch Video Solution

47. How many chromosomes are there in female honey bee ?

Watch Video Solution

48. what are mutagens ?

Watch Video Solution

49. How does aneuploidy occur ?

Watch Video Solution

50. what is the polyploidy?

Watch Video Solution

51. what is the use of pedigree ?

Watch Video Solution

52. why inheritance pattern of traits in human cannot be studied by cross ?

Watch Video Solution

53. what are autosomal disorder ?

Watch Video Solution

54. Name some common mendelian disorder .

Watch Video Solution

55. How is Haemophilia caused ?

Watch Video Solution

56. How is sicke-cell anaemia caused ?

Watch Video Solution

57. what are the symptoms of phenylketonuria ?

Watch Video Solution

58. How is polyploidy resulted ?

Watch Video Solution

59. when will trisomy or monosomy condition developed in human ?

Watch Video Solution

60. Mention the symptom of down's syndrome .

Watch Video Solution

61. A human female with Tunner,s syndrome :-

Watch Video Solution

Section B Difference Scientific Reasons

1. Haemophilia and sickle - cell Anaemia

Watch Video Solution

2. Male heterohamety and Female heterogamety

Watch Video Solution

3. Incomplete dominanace and co-dominace

Watch Video Solution

4. Crossing over and Linkage

Watch Video Solution

5. Mendelian disorders and chormosomal disorders

 Watch Video Solution

6. In phenylketonuria :-

 Watch Video Solution

7. The Mendelian experiments cannot be carried out in human beings.

Watch Video Solution

8. Thalassemia and haemophilia categorised as Mendelian disorders.

Watch Video Solution

9. The human male never passes on the gene for haemophilia to his son.

Watch Video Solution

10. Crossing over and Linkage

Watch Video Solution

Section C Objective Questions Answers

1. 

View Text Solution

2. 

View Text Solution

3. 

View Text Solution

4. 

View Text Solution

5. 

View Text Solution

6. 

View Text Solution

Section C Objective Questions Answers Definitions Explanation

1. what is true breeding line?

Watch Video Solution

2. What is Filial_1 progeny ?

Watch Video Solution

3. Definition of F_2 generation :

Watch Video Solution

4. Defination of Factors :

Watch Video Solution

5. Definition of Genes :

Watch Video Solution

6. Defination of Alleles :

Watch Video Solution

7. Defination of Monohybrid experiment :

Watch Video Solution

8. Defination of Dihybrid experiment:

Watch Video Solution

9. Definition of Dominant gene:

Watch Video Solution

10. Defination of Recessive gene :

Watch Video Solution

11. Defination of Phenotype :

Watch Video Solution

12. Defination of Genotype :

Watch Video Solution

13. what is meant by homozygous gene ?

Watch Video Solution

14. Defination of Heterozygous :

Watch Video Solution

15. Defination of Dihybrid experiment:

16. Defination of Punnett square :

17. What is the ratio for test cross in dihybrid experiment of Mendel?

18. Incomplete dominanace and co-dominace

Watch Video Solution

19. Defination of Multiple Allelism :

Watch Video Solution

20. Write short note on pleiotropy.

Watch Video Solution

21. Which statement is correct about polygenic inheritance :

Watch Video Solution

22. Defination of Complementary Gene:

Watch Video Solution

23. Defination of Epistatic Gene or Inhibitory Gene:

Watch Video Solution

24. what is linkage?

Watch Video Solution

25. What is sex determination? State the different methods of sex determination in animals.

Watch Video Solution

Section D Textual Exercise

1. Mention the advantages of selecting pea plant for experiment by Mendel.

Watch Video Solution

2. Differentiate between the following:

Dominance and Recessive

Watch Video Solution

3. Differentiate between the following:

Homozygous and Heterozygous

Watch Video Solution

4. Differentiate between the following:

Monohybrid and Dihybrid

Watch Video Solution

5. A diploid organism is heterozygous for 4 loci, how many types of gametes can be

produced ?

6. How many laws were given by mendel base on monohybrid cross ?

7. Define and design a test cross.

8. Using a Punnett square, work out the distribution of phenotypic features in the first $[F_1]$ filial generation after across between a homozygous female and a heterozygous male for a single locus.

Watch Video Solution

9. When a cross is made between tall plant with yellow seeds [TtYy] and tall plant with

seed [Tt yy], What proportion of phenotype in the offspring could be expected to be

Watch Video Solution

10. Two heterozygous parents are crossed. If the two loci are linked what would be the distribution of phenotypic features in F_1, generation for a dihybrid cross?

Watch Video Solution

11. Briefly mention the contribution of T.H. Morgan in genetics.

Watch Video Solution

12. what is the use of pedigree ?

Watch Video Solution

13. How is sex determined in human beings ?

Watch Video Solution

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

Watch Video Solution

15. Explain co-dominance in human with example.

Watch Video Solution

16. What is point mutation ? Describe it with example.

Watch Video Solution

17. Who had proposed the chromosomal theory of inheritance ?

Watch Video Solution

18. Mention any two autosomal genetic disorder with their symptoms.

Watch Video Solution

Section E Solution Of Ncert Exemplar Multiple Choice Question Mcqs

1. All genes located on the same chromosome

A. Form different groups depending upon their relative distance

B. Form one linkage group

C. Will not form any linkage groups

D. Form interactive groups that affect the phenotype.

Answer: B

Watch Video Solution

2. Conditions of a karyotype 2n $\pm$ 1 and 2n $\pm$ 2 are called

A. Aneuploidy

B. Polyploidy

C. Allopolyploidy

D. Monosomy

Answer: A

 Watch Video Solution

3. Distance between the genes and percentage of recombination shows

A. a direct relationship

B. an inverse relationship

C. a parallel relationship

D. no relationship

Answer: A

Watch Video Solution

4. If a genetic disease is transferred from a phenotypically normal but carrier female to only some of the male progeny, the disease is

A. Autosomal dominant

B. Autosomal recessive

C. Sex-linked dominant

D. Sex-linked recessive

Answer: D

Watch Video Solution

5. In sickle-cell anaemia Glutamic acid is replaced by Valine. Which one of the following are triplet codes for valine ?

A. GGG

B. AAG

C. GAA

D. GUG

Answer: D

Watch Video Solution

6. Person having genotype $I^A I^B$ would show the blood group as AB. This is because of

A. Pleiotropy

B. Codominance

C. Segregation

D. Incomplete dominance

Answer: B

Watch Video Solution

7. ZZ/ZW type of sex determination is seen in

A. Platypus

B. Snails

C. Cockroach

D. Peacock

Answer: D

Watch Video Solution

8. A cross between two tall plants resulted in offspring having few dwarf plants. What would be the genotypes of both the parents ?

A. TT and Tt

B. Tt and Tt

C. TT and TT

D. Tt and tt

Answer: B

Watch Video Solution

9. In a dihybrid cross, if you get 9:3:3:1 ratio, it denotes that

A. The alleles of two genes are interacting with each other

B. It is a multigenic inheritance

C. It is a case of multiple allelism

D. The alleles of two genes are segregating independently

Answer: D

Watch Video Solution

10. Which of the following will not result in variations among siblings?

A. Independent assortment of genes

B. Crossing over

C. Linkage

D. Mutation

Answer: C

 Watch Video Solution

11. Mendel.s Law of independent assortment holds good for genes situated on the

A. Non-homologous chromosomes

B. Homologous chromosomes

C. Extra nuclear genetic element

D. Same chromosome

Answer: A

Watch Video Solution

12. Occasionally, a single gene, may express more than one effect. The phenomenon is called

A. Multiple allelism

B. Mosaicism

C. Pleiotropy

D. Polygeny

Answer: C

 Watch Video Solution

13. In a certain taxon of insects, some have 17 chromosomes and the others have 18 chromosomes. The 17 and 18 chromosome bearing organisms are.

A. Males and females, respectively

B. Females and males, respectively

C. All males

D. All females

Answer: A

Watch Video Solution

14. The inheritance pattern of a gene over generations among humans is studied by the pedigree analysis. Character studied in the pedigree analysis is equivalent to

A. Quantitative trait

B. Mendelian trait

C. Polygenic trait

D. Maternal trait

Answer: B

Watch Video Solution

15. It is said that Mendel proposed that the factor controlling any character is discrete and independent. His proposition was based on the

A. A. Results of F_3 generation of a cross

B. B. Observations that the offspring of a cross made between the plants having

two contrasting characters shows only one character without any blending.

C. C. Self pollination of F_1 off springs

D. D. Cross pollination of F_1 generations with recessive parental

Answer: B

Watch Video Solution

16. Two genes .A. and .B. are linked. In a dihybrid cross involving these two genes, the F_1 heterozygote is crossed with homozygous recessive parental type (aa bb). What would be the ratio of offspring in the next generation ?

A. 1:1:1:1

B. 9:3: 3:1

C. 3:1

D. $1:1$

Answer: A

Watch Video Solution

17. In the F_2 generation of a Mendelian dihybrid cross, the number of phenotypes and genotypes are

A. Phenotypes-4, genotypes-16

B. Phenotypes-9, genotypes-4

C. Phenotypes-4, genotypes-8

D. Phenotypes-4, genotypes-9

Answer: D

Watch Video Solution

18. Mother and father of a person with .O. blood group have .A. and .B. blood group respectively. What would be the genotype of both mother and father?

A. Mother is homozygous for .A. blood group and father is heterozygous for .B..

B. Mother is heterozygous for .A. blood group and father is homozygous for .B.

C. Both mother and father are heterozygous for A. and .B. blood group, respectively.

D. Both mother and father are homozygous for .A. and .B. blood group, respectively.

Answer: C

Watch Video Solution

Section E Solution Of Ncert Exemplar Very Short Answer Type Questions

1. What is the cross between the progeny of F_1 and the homozygous recessive parent called ? How is it useful ?

Watch Video Solution

2. Do you think Mendel's laws of inheritance would have been different in the characters that he choose were located on the same chromosome ?

Watch Video Solution

3. Enlist the steps of controlled cross pollination. Would emasculation be needed in a cucurbit plant ? Give reasons for your answer.

Watch Video Solution

4. A person has to perform crosses for the purpose of studying inheritance of a few traits/characters. What should be the criteria for selecting the organisms?

Watch Video Solution

5. The pedigree chart given below shows a particular trait which is absent in parents but present in the next generation irrespective of sexes. Draw your conclusion on the basis of the pedigree.

View Text Solution

6. In order to obtain the. F_1 generation Mendel pollinated a pure-breeding tall plant with a pure breeding dwarf plant. But for getting the F_2 generation, he simply self-pollinated the tall F_1 plants. Why?

Watch Video Solution

7. Genes contain the information that is required to express a particular trait. Explain.

Watch Video Solution

8. How are alleles of particular gene differ from each other ? Explain its significance.

Watch Video Solution

9. In a monohybrid cross of plants with red and white flowered plants, Mendel got only red flowered plants. On self-pollinating these F_1 plants got both red and white flowered plants in 3:1 ratio. Explain the basis of using

RR and rr symbols to represent the geno type of plants of parental generation.

Watch Video Solution

10. For the expression of traits genes provide only the potentiality and the environment provides the opportunity. Comment on the veracity of the statement.

Watch Video Solution

11. A, B, D are three independently assorting genes with their recessive alleles a, b, d, respectively. A cross was made between individuals of Aa bb DD genotype with aa bb dd. Find out the type of genotypes of the offspring produced.

Watch Video Solution

12. In our society a woman is often blamed for not bearing male child. Do you think it is

right? Justify.

Watch Video Solution

13. Discuss the genetic basis of wrinkled phenotype of pea seed.

Watch Video Solution

14. Even if a character shows multiple allelism, an individual will only have two alleles for that character. Why?

Watch Video Solution

15. How does a mutagen induce mutation ? Explain with example.

Watch Video Solution

Section E Solution Of Ncert Exemplar Short Answer Type Questions

1. In a Mendelian monohybrid cross, the F_2 generation shows identical genotypic and phenotypic ratios. What does it tell us about the nature of alleles involved? Justify your answer.

Watch Video Solution

2. A child has blood group O. If the father has blood group A and mother blood group B, work out the genotypes of the parents and

the possible genotypes of the other offsprings.

Watch Video Solution

3. What is Down.s syndrome ? Give its symptoms and cause. Why is it that the chances of having a child with Down.s syndrome increases if the age of the mother exceeds forty years ?

Watch Video Solution

4. How was it concluded that genes are located on chromosomes ?

Watch Video Solution

5. A plant with red flowers was crossed with another plant with yellow flowers. If F_1 showed all flowers orange in colour, explain the inheritance.

Watch Video Solution

6. what is true breeding line?

 Watch Video Solution

7. In peas, tallness is dominant over dwarfness and red colour of flowers is dominant over the white colour. When a tall plant bearing red flowers was pollinated with a dwarf plant bearing white flowers, the different phenotypic groups were obtained in the progeny in numbers mentioned against them : Tall, Red =138, Tall, White = 132 Dwarf, Red =136,

Dwarf, White = 128 Mention the genotypes of the two parents and of the four offspring types.

Watch Video Solution

8. Why is the frequency of red-green colour blindness is many times higher in males than that in the females ?

Watch Video Solution

9. 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.

Watch Video Solution

10. Discuss why Drosophila has been used extensively for genetical studies.

Watch Video Solution

11. How do genes and chromosomes share similarity from the point of view of genetical studies ?

Watch Video Solution

12. What is recombination ? Discuss the applications of recombination from the point of view of genetic engineering.

Watch Video Solution

13. What is artificial selection ? Do you think it affects the process of natural selection ? How?

Watch Video Solution

14. Incomplete dominanace and co-dominace

Watch Video Solution

15. 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?

Watch Video Solution

Section E Solution Of Ncert Exemplar Long Answer Type Questions

1. In peas, tallness is dominant over dwarfness and red colour of flowers is dominant over the white colour. When a tall plant bearing red flowers was pollinated with a dwarf plant

bearing white flowers, the different phenotypic groups were obtained in the progeny in numbers mentioned against them : Tall, Red =138, Tall, White = 132 Dwarf, Red =136, Dwarf, White = 128 Mention the genotypes of the two parents and of the four offspring types.

Watch Video Solution

2. In humans, males are heterogametic and females are homogametic. Explain. Are there

any examples where males are homogametic and females heterogametic ?

Watch Video Solution

3. Also describe as to who determines the sex of an unborn child ? Mention whether temperature has a role in sex determination.

Watch Video Solution

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

Watch Video Solution

5. Briefly mention the contribution of T.H. Morgan in genetics.

Watch Video Solution

6. Define aneuploidy. How is it different from polyploidy ? Describe the individuals having the following chromosomal abnormalities. (a) Trisomy of 21^{st} chromosome (b) XXY (c) XO

Watch Video Solution

Section F Multiple Choice Questions Mcqs Mcqs From Darpan Based On Textbook

1. In Mirabilis jalapa red and white flowers are crossed, what can be phenotype and genotype of F_2 generation ?

A. A. 1:2:1 and 3:1

B. B. 3:1 and 1:2:1

C. C. 1:2:1 and 1:2:1

D. D. 9:3 : 4 and 3 : 1

Answer: C

Watch Video Solution

2. One of the following is correct statement.

A. Dominant trait is expressed in homozygous condition.

B. Dominant trait cannot be expressed in heterozygous condition

C. Recessive trait can only be expressed in homozygous condition

D. Recessive trait can always expressed in heterozygous condition

Answer: C

Watch Video Solution

3. If heterozygous tall plant is crossed with a homozygous dwarf plants, then the ratio of dwarf plant is

A. A. 0.25

B. B. 0.5

C. C. 0.75

D. D. 1

Answer: B

Watch Video Solution

4. In a dihybrid cross, if you get 9:3:3:1 ratio, it denotes that

A. law of dominance

B. purity of gametes

C. independent assortment

D. law of segregation

Answer: C

Watch Video Solution

5. A blue fowl was obtained after crossing between a white and black fowl. Than the ratio of their F_2 generation will be

A. $3:1$

B. $9:2$

C. $1:2:1$

D. $13:3$

Answer: A

Watch Video Solution

6. Mendel.s first law is often called

A. law of segregation

B. law of independent assortment

C. law of dominance

D. Both (A) and (C)

Answer: D

Watch Video Solution

7. In Lathyrus odoratus the crossing over between two white and purple is case of

A. A. co-dominance

B. B. incomplete dominance

C. C. polymerization

D. D. complementary gene action

Answer: A

Watch Video Solution

8. The work of Mendel was published in year

A. A. 1900

B. B. 1901

C. C. 1884

D. D. 1866

Answer: A

Watch Video Solution

9. If dihybrid cross the F_1 heterozygous plants are self fertilized to produce an F_2 generation and if offspring are computed in punett square the phenotypic F_2 ratio as per Mendel.s independent assortment will yield.

A. $9:7$

B. $9:3:3:1$

C. $9:6:1$

D. $12:3:1$

Answer: B

Watch Video Solution

10. In across between individuals with genotypes TtRr, if the resulting number of offsprings is 16, identify the number of genotypes with TtRr and TtRR amongst them.

A. 1 and 2

B. 2 and 3

C. 3 and 1

D. 4 and 2

Answer: D

Watch Video Solution

11. The phenotypic ratio of monohybrid cross is

A. 9: 3:3:1

B. 1:2:1

C. $3:1$

D. $1:2:3$

Answer: C

Watch Video Solution

12. Three children in a family have blood types O, AB and B respectively. What as the genotypes of their parents ?

A. I^AI^B and ii

B. I_i^A and I_i^B

C. I^AI^A and I_i^B

D. I^BI^B and I^AI^A

Answer: B

Watch Video Solution

13. The commonly used animal in genetics is

A. echerichia coli

B. drosophila

C. neurospora

D. chlorella

Answer: B

Watch Video Solution

14. A cross between pure tall, green seeds and pure dwarf yellow seeds is crossed with pure dwarf and green seeds then number of phenotype produced are

A. 2

B. 6

C. 4

D. 1

Answer: C

Watch Video Solution

15. The crossing of an organism with a double (homozygous) recessive in order to determine whether it is homozygous or heterozygous for a character under consideration is known as

A. back cross

B. test cross

C. reciprocal cross

D. dihybrid cross

Answer: B

Watch Video Solution

16. Mutations

A. A. take place gradually and in small steps

B. B. are all heritable and give rise to new species

C. C. are subject to natural selection

D. D. are random changes in base sequence of RNA

Answer: C

Watch Video Solution

17. Which one of the following pairs consists of both recessive traits in Pisum sativum as studied by Mendel?

A. Dwarf plant and axial flower position

B. Constricted pod shape and round seed shape

C. Green seed colour and terminal flower position

D. White flower and yellow seed colour

Answer: C

 Watch Video Solution

18. Two crosses between the same pair of genotypes or phenotypes in which the sources of the gametes are reversed in one cross, is known as

A. test cross

B. reciprocal cross

C. dihybrid cross

D. reverse cross

Answer: B

Watch Video Solution

Watch video solution

19. Which one of the following traits of garden pea studied by Mendel was a recessive feature ?

A. Axial flower position

B. Green seed colour

C. Green pod colour

D. Round seed shape

Answer: B

Watch Video Solution

20. The ratio of 1:1:1:1 is obtained from a cross between the parents.

A. RRYY $\times$ rryy

B. RRYy $\times$ rryy

C. RrYY $\times$ Rryy

D. RrYy $\times$ rryy

Answer: D

Watch Video Solution

21. If a pure tall pea plant is raised in nutrient deficient media such that it grows to the size of a dwarf plant and is then selfed the progeny in normal media will be

A. dwarf

B. all tall

C. 50% tall and 50% dwarf

D. 75% tall and 25% short

Answer: B

Watch Video Solution

22. How many different types of gametes can be formed by Fi progeny resulting from the following cross AABBCC $\times$ aa bb cc ?

A. 3

B. 8

C. 27

D. 64

Answer: B

Watch Video Solution

23. Mendelian recombination is due to

A. independent assortment

B. segregation

C. mutation

D. linkage

Answer: A

Watch Video Solution

24. Law of purity of gametes put forward by Mendel was proved by

A. monohybrid cross

B. dihybrid cross

C. test cross

D. out cross

Answer: C

 Watch Video Solution

25. Which of the follows Mendel.s law of segregation ?

A. Genetic material is equally distributed during mitosis

B. Each gamete receives one gene for an allele

C. Genetic material enters only one gamete

D. All of these

Answer: B

Watch Video Solution

26. The ratio of homozygous dominant and homozygous recessive in dihybrid cross is

A. $1:16$

B. $1:8$

C. $16:1$

D. none of these

Answer: D

Watch Video Solution

27. In a plant, red fruit (R) is dominant over yellow fruit (r) and tallness (T) is dominant over shortness (t). If a plant with RRTT genotype is crossed with a plant that is rrtt then

A. 25 % will be tall with red fruit

B. 50 % will be tall with red fruit

C. 75 % will be tall with red fruit

D. all the offspring will be tall with red fruit.

Answer: B

 Watch Video Solution

28. Lack of independent assortment of two genes A and B in fruit fly Drosophila is due to

A. repulsion

B. recombination

C. linkage

D. crossing over

Answer: C

Watch Video Solution

29. A cross between hybrid and a recessive parent (Tt $\times$ t t) gives a ratio of

A. $1:1$

B. $2:1$

C. $3:1$

D. $4:1$

Answer: A

Watch Video Solution

30. A dihybrid for qualitative trait is crossed with homozygous recessive individual of its type the monotypic ratio is

A. $1:2:1$

B. $3:1$

C. $1:1:1:1$

D. $9:3:3:1$

Answer: C

Watch Video Solution

31. The frequencies of alleles in a Mendelian population are subjected to influence of

A. Genetic drift

B. Mutation

C. Natural selection

D. All the above

Answer: D

Watch Video Solution

32. Which of the following is incorrectly paired ?

A. .SRY. gene - X-chromosome

B. 2n-2-nullisomic

C. nuclecode - proparyote

D. polytene chromosome - drosophila

Answer: A

 Watch Video Solution

33. Which of the following will yield 45 tall and 14 dwarf plants?

A. Tt $\times$ tt

B. Tt $\times$ Tt

C. TT $\times$ TT

D. TT $\times$ Tt

Answer: B

Watch Video Solution

34. When many genes control only one trait is called

A. pleiotropy

B. multiple allelism

C. polygenic

D. epistasis

Answer: B

 Watch Video Solution

35. In a cross 50% individuals were tall and 50% were dwarf, so the cross was between

A. Tt $\times$ tt

B. Tt $\times$ TT

C. $\top$ $\times$

D. Tx $\times$ Tt

Answer: A

Watch Video Solution

36. Percentage of homozygous offspring in a monohybrid F_2 cross is .....

A. 0.25

B. 0

C. 1

D. 0.5

Answer: D

Watch Video Solution

37. Which one of the following is correctly matched ?

A. Frederick Griffith - discovered the phenomenon of transformation.

B. Linus Pauling - isolated DNA for the first time

C. George Beedle - proposed the concept of inborn errors

D. Jacob and Monod - proposed the wobble hypothesis

Answer: A

Watch Video Solution

38. A gene is a

A. complete DNA molecule

B. specific part of DNA molecule

C. heterochromatic part of DNA

D. set of ribonucleotide

Answer: B

 Watch Video Solution

39. The percentage homozygous recessive gametes in YyRr is

A. 0.25

B. 0.5

C. 0.75

D. 1

Answer: A

 Watch Video Solution

40. Multiple alleles are characterized by

A. more than two alternate forms of genes found at different loci

B. more than two alternate forms of genes found on same loci

C. one gene occurs in two chromosomes

D. none of these

Answer: B

Watch Video Solution

41. In Drosophila gene for white eye mutation is also responsible for depigmentation of body

parts. Thus a gene that controls several phenotypes is called

A. oncogene

B. epistatic gene

C. hypostatic gene

D. pleiotropic gene

Answer: D

Watch Video Solution

42. In order to find out the different types of gametes produced by a pea plants having the genotype Aa Bb, it should be crossed to a plant with the genotype

A. aaBB

B. AaBb

C. AABB

D. aabb

Answer: D

Watch Video Solution

Watch Video Solution

43. Which of the following points further strengthened Mendelism ?

A. Law of independent assortment which was based on monohybrid cross.

B. Law of independent assortment which could be state on the basis of segregation of gametes

C. Incomplete dominance give a new way to Mendelism

D. A character controlled by a pair of unit factors

Answer: D

Watch Video Solution

44. In maize, hybrid vigour is exploited by

A. inducing mutation

B. bombarding the protoplast

C. crossing of two inbred parental lines

D. harvesting seeds from the most productive plants

Answer: C

Watch Video Solution

45. Which genotype represents a true hybrid condition ?

A. TT rr

B. TtRr

C. TTRr

D. ttrr

Answer: B

 Watch Video Solution

46. In progeny of dihybrid cross in F_2 generation how many plants are homozygous recessive ?

A. One

B. Two

C. Three

D. Four

Answer: A

Watch Video Solution

47. A dwarf pea plant treated with gibberellic acid becomes tall, then crossed with pure homozygous tall pea plants, then what will be

the phenotypic ratio of tall pea plants in F_1 progeny ?

A. 100% dwarf plant

B. 50% tall plants

C. 100% tall plant

D. all tall pea plants

Answer: C

Watch Video Solution

48. When RR(red) and rr(white) are being crossed, we got Rr (pink). This shows that

A. r is completely dominant

B. r is recessive

C. r is not completely dominant

D. r is dominant

Answer: C

 Watch Video Solution

49. The number of genotypes produced when individual of genotype YyRrTt are crossed with each other?

A. 4

B. 64

C. 28

D. 27

Answer: B

 Watch Video Solution

50. Skin colour inheritance in man is

A. monogenic

B. polygenic

C. sex linked

D. multiple alleles

Answer: B

 Watch Video Solution

51. Genetics of blood group in human illustrates.

A. Multiple allelism and codominance

B. Multiple allelism and pseudodominance

C. Pseudoallelism and codominance

D. Incomplete dominance and multiple allelism

Answer: A

 Watch Video Solution

52. When parents P_1 and P_2 were crossed, F_2 progeny was produced with three fourth similar features in phenotype to P_2 and F_1 and one fourth possessed contrasting traits. If the traits being considered here are for height with .T. for tall and .t. for short. What will be the possible genontype of P_1 and one fourth of F_2?

A. A. tt and Tt

B. B. Tt and tt

C. C. Tt and Tt

D. D. tt and tt

Answer: D

Watch Video Solution

53. The main reason for the success of Mendel was that

A. he made statistical analysis of the offspring

B. he first took only one character at a time in his crosses.

C. he kept pedigree records

D. he selected pea plant

Answer: B

Watch Video Solution

54. Mendel was not able to say anything about recombination and crossing over because

A. he did not have large strong microscope

B. he choose only pure types

C. traits he selected were not linked and present on different chromosomes or were for apart.

D. traits he closed was no genes.

Answer: C

Watch Video Solution

55. Mendel.s law of segregation is applicable during

A. formation of gametes

B. fusion of gametes

C. formation of zygote

D. formation of gonads

Answer: A

Watch Video Solution

56. When a dihybrid cross is fitted into a pannet square with 16 boxes, the maximum number of different phenotypes available are

A. 4

B. 4

C. 16

D. 12

Answer: B

 Watch Video Solution

57. The phenomenon of a single gene regulating several phenotypes is called

A. multiple allelism

B. epistasis

C. incomplete dominance

D. pleiotropism

Answer: D

 Watch Video Solution

58. Which character was dominant among the 7 characters in Mendel.s experiment?

A. Plant height - Dwarf

B. Flower position - terminal

C. Pod colour - green

D. Seed colour - green

Answer: C

 Watch Video Solution

59. Monohybrid cross F_1 progeny Tt is inbred. What will be the maximum types of F_2 genotypes ?

A. A. 3

B. B. 2

C. C. 4

D. D. 1

Answer: A

 Watch Video Solution

60. Heritable sudden change in composition of gene is known as

A. linkage

B. mutation

C. nutation

D. translate

Answer: B

 Watch Video Solution

61. Haploids are more suitable for mutation studies then the diploids. This is because

A. haploid are reproductively more suitable then diploids

B. mutagens penetrate in haploids more effectively than in diploid

C. haploids are more abundant in nature than diploids.

D. all mutations, weather dominanant or recessive are expressed in haploid.

Answer: D

62. Describe incomplete dominance.

A. $1:2:1$

B. $9:3:3:3:1$

C. $3:1$

D. $9:2$

Answer: A

Watch Video Solution

63. what is pleiotropic gene ?

A. controls only one phenotype

B. controls several phenotypes

C. mark the expression of another non-allelic gene

D. inhibits cross over

Answer: B

Watch Video Solution

64. Which one of the following represents a deviation from Mendelian concepts?

A. Segregation

B. Independent assortment

C. Purity of gametes

D. Incomplete dominance

Answer: D

Watch Video Solution

65. The character which appears in F_1 generation is called

A. recessive

B. dominant

C. latent

D. none of these

Answer: B

 Watch Video Solution

66. During the study of incomplete dominance in a cross between true breeding flower (RR) and true breeding white flower (rr) when F_1 was sell pollinated resulted F_2 ratio may be

A. 1 (RR) red , 2 (Rr) pink : 1 (rr) white

B. 2 (RR) red , 1 (Rr) pink : 1 (rr) white

C. 1 (RR) red , 1 (Rr) pink : 2 (rr) white

D. 3 (RR) red , 1 (rr) white

Answer: A

Watch Video Solution

67. Male child will be born if

A. mother takes nutritious diet

B. lactation is normal

C. garnetic frame up is XX

D. gametic frame up is XY

Answer: D

Watch Video Solution

68. A man has enlarged breasts, sparse hair on body and sex complement as XXY. He then suffers from

A. down.s syndrome

B. Klinefelter's syndrome

C. edward.s syndrome

D. turner.s syndrome

Answer: B

Watch Video Solution

69. Father has .AB. blood group, mother has .B.. Which of the following will not be in their children?

A. A

B. B

C. C

D. O

Answer: D

Watch Video Solution

70. Albinism is due to

A. genetic disorder

B. malfunctioning of pituitary

C. lack of melanin

D. both (A) and (C)

Answer: D

Watch Video Solution

71. Sex-linked disease is

A. diabetes

B. colour blindness

C. deafness

D. baldness

Answer: B

Watch Video Solution

72. A couple whose sons are colour-blind with .AB. blood group, identify the parents from the following.

A. Mother colourblind with .A. blood group and father normal with blood group .B.

B. Mother normal with blood group .A. and father colourblind with blood group .B.

C. Mother colourblind with blood group .B. and father normal with blood group .B.

D. Mother normal with blood group .A. and father colourblind with blood group .B.

Answer: A

 Watch Video Solution

73. The probability of the male child of a haemophiliac father and normal mother becoming haemophiliac.

A. 0

B. 0.25

C. 0.5

D. 1

Answer: C

 Watch Video Solution

74. Disease caused by pleiotropic genes

A. A. are syndromes

B. B. can be altered by diet control

C. C,can be altered by gene therapy

D. D.are never syndromes

Answer: D

Watch Video Solution

75. Which of the following is not the symptom of alkaptonuria ?

A. A. Darkening of cartilage of ear

B. B. Darkening of urine

C. C. Deposition of alcapton causing arthritis

D. D. All above

Answer: D

 Watch Video Solution

76. A single Barr body in male is found in

A. X

B. XXY

C. XX

D. XXXY

Answer: B

 Watch Video Solution

77. Human females have

A. 46 autosomes

B. 2 pairs of allosomes

C. 44 autosomes

D. 23 pairs of autosomes

Answer: C

 Watch Video Solution

78. If a man and a woman both having colourblind father marry. The percentage probability of their first daughter to be colourblind is

A. 0.25

B. 0.5

C. 1

D. 0

Answer: A

Watch Video Solution

Watch Video Solution

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

A. 0.5

B. 0.25

C. 0.75

D. 1

Answer: B

Watch Video Solution

80. Klinefelter's syndrome is denoted by

A. three .X. chromosomes (XXX)

B. three .Y. chromosomes (YYY)

C. two .X. chromosomes and one .Y. chromosomes (XXY)

D. one .X. chromosomes and two .Y. chromosomes (XXY)

Answer: C

Watch Video Solution

81. One of the genes present exclusively on the X-chromosome in humans is concerned with

A. baldness

B. red-green colour blindness

C. facial hair / moustaches in males

D. night blindness

Answer: B

Watch Video Solution

82. What are all the chances of colour blind daughters and sons being born in a marriage of normal man marrying a normal woman whose father was colour blind ?

A. All sons are normal and all daughters are colour blind

B. Both the sons and daughter phenotypically normal

C. All the sons are colour blind and all daughters are normal

D. 50 % sons are colour blind and all daughters are phenotypically normal

Answer: D

Watch Video Solution

83. When both parents are of blood type AB, they can have children with

A. A, B, AB and O types

B. A, B and AB blood types

C. A and B blood types

D. A, B and O blood types

Answer: B

Watch Video Solution

84. 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. 1

B. 0.75

C. 0.5

D. 0.25

Answer: C

Watch Video Solution

85. Which of the following is an inherited disorder ?

A. Leprosy

B. Goiter

C. AIDS

D. Albinism

Answer: D

Watch Video Solution

86. A medical technician while observing a human blood smear under the microscope note the presence of a Barr body close to the nuclear membrane in the WBC. This indicates that the person under investigation is a

A. colour blind

B. hemophilic

C. normal female

D. normal male

Answer: C

Watch Video Solution

87. How is Haemophilia caused ?

A. A.deficiency of vitamin K

B. B. infections diseases

C. C.chromic disorder

D. D. genetic disorder

Answer: D

Watch Video Solution

88. A human female with Tunner,s syndrome :-

A. XXY

B. XYY

C. XO

D. YO

Answer: C

Watch Video Solution

89. Mr. Phillips is colour blind what is the probability of his male child inheriting this disease from him ?

A. 1

B. 0.25

C. 0.5

D. 0

Answer: D

 Watch Video Solution

90. Sex linked characters are always

A. A.lethal

B. B.recessive

C. C.dominant

D. D.pleiotropic

Answer: B

Watch Video Solution

91. XXY condition of chromosomes is found in

A. A.super male

B. B.super female

C. C. turner.s syndrome

D. D. Klinefelter.s syndrome

Answer: D

 Watch Video Solution

92. A couple has five daughter and are expecting the sixth child. The chances of getting son are

A. 0.5

B. 0.25

C. 0

D. 1

Answer: A

Watch Video Solution

93. If a normal woman marries a colour blind man

A. A.all their children will be colour blind.

B. B.all their sons will be colour blind but the daughters will be normal.

C. C. all the children will be normal.

D. D.all the daughters will be colour blind and sons will be normal.

Answer: C

Watch Video Solution

94. Person who are colour blind cannot distinguish

A. red and geen

B. yellow and white

C. black and red

D. yellow and blue

Answer: A

Watch Video Solution

95. Phenylketonuria is a genetic disorder due to a defect in metabolism of the following.

A. A.Polysaccharides

B. B.Fatty acids

C. C. Vitamins

D. D.Amino acid

Answer: D

 Watch Video Solution

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

A. 75% colour blind

B. 50% colour blind

C. all normal

D. all colour blind

Answer: B

Watch Video Solution

97. Which is true for colour blindness?

A. It is a sex linked disoder

B. A person is not able to recognize red and green

C. The person lacks red and green pigment differentiating cells in eyes.

D. All the above

Answer: D

Watch Video Solution

98. A child has blood group IA IB and his mother has IBIB then child.s father cannot have

A. $I^A I^A$

B. $I^A I^B$

C. $I^B I^B$

D. $I^A I^0$

Answer: C

Watch Video Solution

99. A normal male marries a colour blind woman. Which of the following statements is correct about thier progeny ?

A. They will have normal daughter

B. 50% of their daughter will be normal

C. 50% of their sons will be colour blind

D. 50% of their sons will be carriers and rest will be normal.

Answer: A

Watch Video Solution

100. A sterile female having reduced mental ability is said to be suffering from

A. turner syndrome

B. Klinefelter.s syndrome

C. down.s syndrome

D. edward syndrome

Answer: A

Watch Video Solution

101. Haploid number of chromosomes in your body cell are

A. 23

B. 22

C. 21

D. 46

Answer: A

Watch Video Solution

Section F Multiple Choice Questions Mcqs Mcqs Asked In Competitive Exam

1. The incorrect statement with regard to haemophilia is

A. it is a sex-linked disease

B. it is a recessive disease

C. it is a dominant disease

D. a single protein involved in the clotting of blood is affected

Answer: C

Watch Video Solution

2. Which Mendelian idea is depicted by a cross in which the F_1-generation resembles both the parents ?

A. Incomplete dominance

B. Law of dominance

C. Inheritance of one gene

D. Codominance

Answer: D

Watch Video Solution

3. If both parents are carriers for thalassaemia, which is an autosomal recessive disorder, what are the chances of pregnancy resulting in an affected child?

A. No chance

B. 0.5

C. 0.25

D. 1

Answer: C

Watch Video Solution

4. If two persons with .AB. blood group marry and have sufficiently large number of children, these children could be classified as .A. blood group "AB. blood group : .B. blood group in 1:2:1 ratio. Modern technique of protein electrophoresis reveals presence of both .A. and .B. type proteins in .AB. blood group individuals. This is an example of

A. codominance

B. incomplete dominance

C. partial dominance

D. complete dominance

Answer: A

Watch Video Solution

5. Which of the following statements is not true of two genes that show 50% recombination frequency?

A. The genes may be on different chromosomes

B. The genes are tightly linked

C. The genes show independent assortment

D. If the genes are present on the same chromosome, they undergo more than one crossovers in every meiosis

Answer: B

 Watch Video Solution

6. Fruit colour in squash is an example of

A. recessive epistasis

B. dominant epistasis

C. complementary genes

D. inhibitory genes

Answer: B

View Text Solution

7. A human female with Tunner,s syndrome :-

A. has 45 chromosomes with XO

B. has one additional X-chromosome

C. exhibits male characters

D. is able to produce children with normal husband

Answer: A

Watch Video Solution

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

A. 0.25

B. 0

C. 0.5

D. 0.75

Answer: A

Watch Video Solution

9. what is pleiotropic gene ?

A. is expressed only in primitive plants

B. is a gene evolved during Pliocene

C. controls a trait only in combination with another gene

D. controls multiple traits in an individual

Answer: D

Watch Video Solution

10. In his classic experiments on pea plants, Mendel did not use

A. seed colour

B. pod length

C. seed shape

D. flower position

Answer: B

Watch Video Solution

11. 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 grandson being colour blind ?

A. 0.5

B. 1

C. Nil

D. 0.25

Answer: D

Watch Video Solution

12. In the following human pedigree, the filled symbols represent the affected individuals.Identify the type of given pedigree.

` (##KPK_AIO_BIO_XII_C05_E06_113_Q01.png" width="80%">

A. Autosomal dominant

B. X-linked recessive

C. Autosomal recessive

D. X-linked dominant

Answer: C

View Text Solution

13. The term "linkage" was coined by

A. T.H Morgan

B. T.Boveri

C. G.Mendel

D. W.Sutton

Answer: A

 Watch Video Solution

14. A gene showing codominance has

A. one allele dominant on the other

B. alleles tightly linked on-the same chromosome

C. alleles that are recessive to each other

D. Both alleles independently expressed in the heterozygote

Answer: D

 Watch Video Solution

15. The mechanism that causes a gene to move from one linkage group to another is called

A. inversion

B. duplication

C. translocation

D. crossing over

Answer: C

Watch Video Solution

16. what is true breeding line?

A. one-that is able to breed on its own

B. produced due to cross-pollination among unrelated plants

C. near homozygous and produces offspring of its own kind

D. always homozygous recessive in its genetic constitution

Answer: C

 Watch Video Solution

17. If a colourblind man marries a woman who is homozygous for normal colour vision, the probability of their son being colourblind is

A. 0

B. 0.5

C. 0.75

D. 1

Answer: A

Watch Video Solution

18. A tall true breeding garden pea plant is crossed with a dwarf true breeding garden

pea plant. When the Fl plants were selfed the resulting genotypes were in the ratio of

A. 1: 2: 1:: Tall heterozygous : Tall homozygous Dwarf

B. 3:1:: Tall : Dwarf

C. 3:1:: Dwarf: Tall

D. 1: 2: 1 :: Tall homozygous : Tall heterozygous Dwarf

Answer: D

 Watch Video Solution

19. Pick out the correct statements.

I. Haemophilia is a sex-linked recessive disease. II. Down.s syndrome is due to aneuploidy. III. Phenylketonuria is an autosomal recessive gene disorder. IV. Sickle-cell anaemia is an X-linked recessive gene disorder.

A. II and IV are correct

B. I, III and IV are correct

C. I, II and III are correct

D. I and IV are correct

Answer: C

Watch Video Solution

20. In a test cross involving F_1 dihybrid flies, more parental-type offspring were produced than the recombinant type offspring. This indicates

A. chromosomes. failed to separate during meiosis

B. the two genes are linked and present on the same chromosome

C. both of the characters are controlled by more than one gene

D. the two genes are located on two different chromosomes

Answer: B

 Watch Video Solution

21. Match the terms in column - I with their description in column - II and choose the correct option.

A.

A	B	C	D
2	3	4	1

B.

A	B	C	D
4	1	2	3

C.

A	B	C	D
4	3	1	2

D.

A	B	C	D
2	1	4	2

Answer: A

View Text Solution

22. A cell at telophase stage is observed by a student in a plant brought from the field. He tells his teacher that this cell is not like other cells at telophase stage. There is no formation of cell plate and thus the cell is containing more number of chromosomes as compared to other dividing cells. This would result in

A. polyploidy

B. somaclonal variation

C. polyteny

D. aneuploidy

Answer: A

Watch Video Solution

23. 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: A

 Watch Video Solution

24. A disease caused by an autosomal primary nondisjunction is

A. down.s syndrome

B. klinefelter.s syndrome

C. turner.s syndrome

D. sickle-cell anemia

Answer: A

Watch Video Solution

25. Thalassemia and sickle-cell anemia are caused due to a problem in globin molecule synthesis. Select the correct statement.

A. A.Both are due to a qualitative defect in global chain synthesis.

B. B.Both are due to a quantitative defect in globin chain synthesis.

C. C. Thalassemia is due to less synthesis of globin molecules

D. D. Sickle-cells anaemia is due to a quantitative problem of globin molecules

Answer: C

Watch Video Solution

26. The genotypes of a husband and wife are $I^A I^B$ and $I^A i$.. Among the blood types of their children, how many different genotypes and phenotypes are possible ?

A. 3 genotypes , 3 phenotypes

B. 3 genotypes , 4 phenotypes

C. 4 genotypes, 3 phenotypes

D. 4 genotypes , 4 phenotypes

Answer: C

Watch Video Solution

27. Among the following characters, which one was not considered by Mendel in his experiments on pea ?

A. Stem - Tall or Dwarf

B. Trichomes - Glandular or Non-glandular

C. Seed - Green or Yellow

D. Pod - Inflated or Constricted

Answer: B

Watch Video Solution

28. Which one from those given below is the period of Mendel.s hybridisation experiments ?

A. 1856 - 1863

B. 1840 - 1850

C. 1857 - 1869

D. 1870-1877

Answer: A

Watch Video Solution

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

A. Both sons and daughters

B. Only daughters

C. Only grandchildren

D. Only sons

Answer: A

Watch Video Solution

30. Which of the following characteristics represent "Inheritance of blood groups in humans? (a) Dominance (b) Co-dominance (c) Multiple allele (d) Incomplete dominance (e) Polygenic inheritance

A. a, c and e

B. b, c and e

C. b, d and e

D. a, b and c

Answer: B

Watch Video Solution

31. Select the correct statement :

A. Transduction was discovered by S. Altman.

B. Franklin Stahl coined the term "linkage"

C. Spliceosomes take part in translation

D. Punnett square was developed by a British scientist.

Answer: D

Watch Video Solution

32. Which of the following pairs is wrongly matched ?

A. morgan - Linkage

B. Starch synthesis in pea - Multiple alleles

C. XO type sex determination - Grasshopper

D. ABO blood grouping - Co-dominance

Answer: A

Watch Video Solution

33. Select the correct match :

A. G. Mendel - Transformation

B. Ribozyme - Nucleic acid

C. T.H. Morgan - Transduction

D. F_2 Recessive parent - Dihybrid cross

Answer: B

Watch Video Solution

34. What map unit (Centimorgan) is adopted in the construction of genetic maps?

A. A. A unit of distance between two expressed genes, representing 10% cross over

B. B.A unit of distance between two expressed genes, representing 100% cross over

C. C. A unit of distance between genes on chromosomes, representing 1% cross over

D. D. A unit of distance between genes on chromosomes, representing 50% cross over

Answer: C

 Watch Video Solution

35. What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile?

A. Turner.s syndrome

B. Klinefelter.s syndrome

C. Edward syndrome

D. Down.s syndrome

Answer: B

Watch Video Solution

36. The frequency of recombination between gene pairs on the same chromosome as a

measure of the distance between genes was explained by :

A. T.H. Morgan

B. Gregor J. Mendel

C. Alfred Sturtevant

D. Sutton Boveri

Answer: C

 Watch Video Solution

37. In Antirrhinum (Snapdragon), a red flower was crossed with a white flower and in F_1 generation, pink flowers were obtained. When pink flowers were selfed, the F_2 generation showed white, red and pink flowers. Choose the incorrect statement from the following:

A. A.This experiment does not follow the Principle of Dominance.

B. B. Pink colour in F_1 is due to incomplete dominance.

C. C. Ratio of F_2 is 1/4 (Red) : 2/4 (Pink): 1/4 (White)

D. D. Law of Segregation does not apply in this experiment.

Answer: D

Watch Video Solution

38. Select the incorrect statement.

A. Male fruit fly is heterogametic.

B. In male grasshoppers, 50% of sperms have no sex-chromosome.

C. In domesticated fowls sex of progeny depends on the type of sperm rather than egg.

D. Human males have one of their sex chromosome much shorter than the other.

Answer: C

Watch Video Solution