# BIOLOGY

# BOOKS - SARAS PUBLICATION

# Classical Genetics

## Example

**1.** What is back cross ?

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**2.** Define Genetics.


**3.** What are multiple alleles?


**4.** Define heredity.

**5.** Define transmission genetics.

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**6.** What is molecular genetics ?

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**7.** Define population genetics.

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**8.** Define quantitative genetics.

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**9.** Define a gene.

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**10.** What is variation?

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**11.** What is continuous variation?

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**12.** what is discontinuous variation?

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**13.** What are polygenes?

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**14.** What is self- Fertilization?

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**15.** What is meant by emasculation ? When and why does a plant breeder employ this technique ?

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**16.** What is cross - pollination ? What are its types ?

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**17.** What is mendelian genetics?

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**18.** Define alleles.

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**19.** Define homozygous.

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**20.** Define heterozygous.

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**21.** What are hybrids?

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**22.** Define homozygous recessive.


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**23.** Define homozygous dominant.


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**24.** Define monohybrid cross.


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**25.** What is monohybrid inheritance?

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**26.** Define reciprocal cross.

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**27.** What is homozygous tall test cross?

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**28.** Explain Dihybrid cross in pea plant .

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**29.** What is dihybrid inheritance?

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**30.** Define trihybrid cross.

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**31.** Define dihybrid test cross. Write its ratio.

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**32.** What is gene interaction?

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**33.** What is intragenic gene interaction?

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**34.** What is intergenic gene interaction?

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**35.** What is incomplete dominance? Give an example.

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**36.** What is codominance?

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**37.** Define lethal allele

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**38.** What is recessive lethality?

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**39.** What is pleiotrophy?

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**40.** Describe dominant epistasis with an example.

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**41.** What is plasmagene?

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**42.** What is an epistatic gene?

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**43.** What is a hypostatic gene?

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**44.** Explain polygenic inheritance with an example.

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**45.** What is meant by cytoplasmic inheritance ?

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**46.** What is mitochondrial inheritance?

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**47.** Write a short note on Atavism.

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**48.** What is cytoplasmic male sterlity?

Watch Video Solution

**49.** What is cytoplasmic male sterlity?

Watch Video Solution

**50.** Differentiate incomplete dominance and codominance.

Watch Video Solution

**51.** Differentiate continous variation with discontinous variation.

Watch Video Solution

**52.** Differentiate genotype and phenotype.

Watch Video Solution

**53.** Among the following characters which one was not considered by Mendel in his expperimentation pea ?

A. Stem - Tall or dwarf

B. Trichome - glandular or non-glandular

C. Seed - Green or yellow

D. Pod - Inflated or constricted

**Answer:**

**54.** Give the names of the scientist who rediscovered Mendelism.

Watch Video Solution

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**56.** Define Genetics.

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**60.** What are the reasons for Mendel's successes in his breeding experiments?

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**61.** Name the seven contrasting traits of Mendel.

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**62.** Differentiate incomplete dominance and codominance.

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**63.** Explain the law of dominance in monohybrid cross.

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**64.** Describe dominant epistasis with an example.

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**65.** Explain polygenic inheritance with an example.

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**66.** Differentiate continous variation with discontinous variation.

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**67.** Explain with an example how single genes affect multiple traits and alleles the phenotype of an organism.

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**68.** Assertion: Mitochondrial and chloroplast inheritance is not through nuclear gene.

Reason: During fertilization, the female plant contributes cytoplasmic gene. The male plant contributes nuclear and not cytoplasm.

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of

assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

Watch Video Solution

**69.** Define heredity.

Watch Video Solution

**70.** Name the four major subdisciplines of genetics.

Watch Video Solution

**71.** Define transmission genetics.

Watch Video Solution

**72.** What is molecular genetics ?

Watch Video Solution

**73.** Define population genetics.

Watch Video Solution

**74.** Define quantitative genetics.

Watch Video Solution

**75.** What is a gene?

Watch Video Solution

**76.** What traits are transmitted by genes from parents to offspring?

Watch Video Solution

**77.** What is variation? What are its types?

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**78.** What is continuous variation?

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**79.** what is discontinuous variation?

Watch Video Solution

**80.** What are polygenes?

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**81.** What are the terms used for genes by Mendel?

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**82.** What is self- Fertilization?

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**83.** Define Emasculation.

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**84.** What is cross-pollination?

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**85.** What is Mendelian genetics?

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**86.** In what way, Mendel's work on the mechanism of inheritance prove to be beneficial?

Watch Video Solution

**87.** What are the traits involved in purple colour of Mendel's pea plant?

Watch Video Solution

**88.** Define alleles.

Watch Video Solution

**89.** Define homozygous.

Watch Video Solution

**90.** Define heterozygous.

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**91.** What are hybrids?

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**92.** Define homozygous recessive.

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**93.** Define homozygous dominant.

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**94.** What are the three laws of Mendel?

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**95.** The laws proposed by Mendel from the observations on monohybrid cross.

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**96.** The laws proposed by Mendel from the observations on monohybrid cross.

Watch Video Solution

**97.** Differentiate genotype and phenotype.

Watch Video Solution

**98.** State the law of segregation.

Watch Video Solution

**99.** What is the other name for law of segregation?

Watch Video Solution

**100.** State the law of independent assortment.

Watch Video Solution

**101.** Why is independent assortment important?

Watch Video Solution

**102.** Define monohybrid cross.

Watch Video Solution

**103.** Genotypic ration of monohybrid cross

Watch Video Solution

**104.** What is monohybrid inheritance?

Watch Video Solution

**105.** Define reciprocal cross.

Watch Video Solution

**106.** What is empirical approach and empirical law ?

Watch Video Solution

**107.** Define and design a test-cross.

Watch Video Solution

**108.** What is homozygous tall test cross?

Watch Video Solution

**109.** What is homozygous tall test cross?

Watch Video Solution

**110.** Which chromosomes of pea plant has three characters studied by Mendel? What are these characters?

Watch Video Solution

**111.** What are the compounds responsibel for expression of height of Mendel's pea plant?

Watch Video Solution

**112.** What are the components responsible for expression of dwarf height of Mendel's pea plant?

Watch Video Solution

**113.** Name the components responsible for the pink colour flowers of 4 O' clock plant.

Watch Video Solution

**114.** Define dihybrid cross.

Watch Video Solution

**115.** What is the phenotypic ratio of dihybrid cross?

Watch Video Solution

**116.** What is dihybrid inheritance?

Watch Video Solution

**117.** What is the starch carbohydrate present in round pea seed? Is it soluble or insoluble?

Watch Video Solution

**118.** What are the components which produce round seed in Mendel's pea plant?

Watch Video Solution

**119.** What are the components which produce wrinkled seed in Mendel's pea plant?

Watch Video Solution

**120.** Define trihybrid cross.

Watch Video Solution

**121.** Define dihybrid test cross. Write its ratio.

Watch Video Solution

**122.** What is the phenotypic ratio of trihybrid cross?

Watch Video Solution

**123.** A plant has the genotype L1 Mm Nn. What type of hybrid is it? How many gametes can it produce? What are they?

Watch Video Solution

**124.** What is gene interaction? Write its types.

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**125.** What is intragenic gene interaction?

Watch Video Solution

**126.** Give some example for intragenic interaction.

Watch Video Solution

**127.** What is intergenic gene interaction?

Watch Video Solution

**128.** Give some example for intragenic interaction.

Watch Video Solution

**129.** What is incomplete dominance? Give an example.

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**130.** What is the phenotypic ratio in case of incomplete dominance

Watch Video Solution

**131.** What is codominance? Give an example.

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**132.** What are the examples for codominace?

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**133.** An example for co-dominance:

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**134.** What is the phenotypic and genotypic ratio for codominance?

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**135.** Define lethal allele

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**136.** What is recessive lethality?

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**137.** What is recessive lethality?

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**138.** What are the types of lethal genes?

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**139.** What is the modified genotypic ratio in recessive lethals?

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**140.** What is pleiotropy? Give an example.

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**141.** Describe dominant epistasis with an example.

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**142.** What is an epistatic gene?

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**143.** What is a hypostatic gene?

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**144.** What is the phenotypic ratio of dominant epistasis in summer squash?

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**145.** Explain polygenic inheritance with an example.

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**146.** What is the phenotypic ratio for polygenic inheritance?

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**147.** What is plasmagene?

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**148.** What is chloroplast inheritance?

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**149.** What is mitochondrial inheritance?

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**150.** What are the types fo mitochondrial inheritance?

Watch Video Solution

**151.** Write a short note on Atavism.

Watch Video Solution

**152.** Give an example for atavism.

Watch Video Solution

**153.** Inheritance of chloroplast and mitochondria characters are non-mendelian inheritance Pattern. Why?

Watch Video Solution

**154.** Why did Mendel select pea plant for this experiments?

Watch Video Solution

**155.** Name and describe the interaction which is introduced by W. Bateson.

Watch Video Solution

**156.** Explain the gene which is responsible for the purple colouration of pea flower.

Watch Video Solution

**157.** How was the genetic mystery of Mendle's white flowers of pea plant solved?

Watch Video Solution

**158.** Write the sexual reproduction in Oedogonium.

Watch Video Solution

**159.** Explain the trihybrid cross.

Watch Video Solution

**160.** Explain about the importance of variation ?

 Watch Video Solution

**161.** List out the advantages of law of independent assortment.

 Watch Video Solution

**162.** Write about dihybrid test cross.

 Watch Video Solution

**163.** Descrbe reciprocal cross.

Watch Video Solution

**164.** What is the cross done to determine whether a tall plant is homozygous or heterozygous genotype? Write a note on it.

Watch Video Solution

**165.** How do you demonstrate co-dominace in plants at the molecular level?

Watch Video Solution

**166.** What is cytoplasmic male sterility ?

Watch Video Solution

**167.** What is cytoplasmic male sterlity?

Watch Video Solution

**168.** Based on the law of segregation, how do you prove that "gametes are never hybrid".

Watch Video Solution

**169.** What is a dihybrid cross ?

Watch Video Solution

**170.** What is the gene which causes the death of an organism? Explain it with its type.

Watch Video Solution

**171.** When two aurea coloured snapdragon $F_1$ plants are crossed, we will get 1:2 ratio instead of the 1:2:1 raio. Why? Give the inheritance pattern.

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**172.** When 4 O' clock plant with red flower is crossed with white flower, the $F_1$ plant produces pink flower. What is this type of inheritance? Explain the inheritance at the molecular level.

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**173.** Find out the molecular explanation for the wrinkled pea seeds used by Mendel.

Watch Video Solution

**174.** How did Mendel perform cross pollination?

Watch Video Solution

**175.** Define monohybrid cross.

Watch Video Solution

**176.** What are the compounds responsibel for expression of height of Mendel's pea plant?

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## Exercise

**1.** Extra nuclear inheritance is a consequence of presence of genes in

A. Mitochondria and chloroplasts

B. Endoplasmic reticulum an mitochondria

C. Ribosomes and chloroplast

D. Lysosomes and ribosomes

**Answer:**

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**2.** How many different types of gametes will be produced by a plant having the genotype AABbC C ?

A. Three

B. Four

C. Nine

D. Two

**Answer:**

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**3.** In Mendel's experiments with garden pea, round seed shape (RR) was dominant over wrinkled seeds(r ), yellow cotyledon (YY) was dominant over green cotyledon (yy). What are the expected phenotypes in the $F_1$ generation of the cross RRYY $\times$ rryy` ?

A. Only round seeds with green cotyledons

B. Only wrinkled seeds with yellow cotyledons

C. Only wrinkled seeds with green cotyledons

D. Round seeds with yellow cotyledons and wrinkled seeds with yellow cotyledons

**Answer:**

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**4.** The gene responsible for the production of anthocyanin pigment.

A. Gene R

B. Pigment A

C. Pea Gene A

D. Gene C

**Answer:**

Watch Video Solution

**5.** The process in which the F1 hybrid is crossed with any one of the parental genotypes is

A. Test cross

B. Dihybrid cross

C. Back cross

D. Monohybrid cross

**Answer:**

**6.** Give the names of the scientist who rediscovered Mendelism.

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**14.** What is meant by true breeding or purebreeding lines / strain ?

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**15.** What is meant by cytoplasmic inheritance ?

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**16.** How was the genetic mystery of Mendle's white flowers of pea plant solved?

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**17.** Write about the gene gun method in the expression of anthocyanin.

Watch Video Solution

**18.** What is the cross done to determine whether a tall plant is homozygous or heterozygous genotype? Write a note on it.

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**19.** Name the seven contrasting traits of Mendel.

Watch Video Solution

**20.** Differentiate continous variation with discontinous variation.

Watch Video Solution

**21.** Write about Atavism.

Watch Video Solution

**22.** Explain the process of cross-pollination in pea flowers with a diagram.

Watch Video Solution

**23.** Extra nuclear inheritance is a consequence of presence of genes in

A. Mitochondria and chloroplasts

B. Endoplasmic reticulum and mitochondria

C. Ribosomes and chloroplast

D. Lysosomes and ribosomes

**Answer:**

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**24.** In order to find out the diferent types of gametes produced by a pea plant having the genotype AaBb,it should be crossed to a plant with the genotype

A. aaBB

B. AaBB

C. AABB

D. aabb

**Answer:**

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**25.** How many different types of gametes will be produced by a plant having the genotype AABbC C ?

A. Three

B. Four

C. Nine

D. Two

**Answer:**

Watch Video Solution

**26.** Which one of the following is an example for polygenic inheritance ?

A. Flower colour in Mirabilis jalapa

B. Production of male honey bee

C. Pod shape in garden pea

D. Skin colour in humans

**Answer:**

Watch Video Solution

**27.** In Mendel's experiments with garden pea, round seed shape (RR) was dominant over wrinkled seeds(r ), yellow cotyledon (YY) was dominant over green cotyledon (yy). What are the expected phenotypes in the $F_1$ generation of the cross RRYY $\times$ rryy` ?

A. Only round seeds with green cotyledons

B. Only wrinkled seeds with yellow cotyledons

C. Only wrinkled seeds with green cotyledons

D. Round seeds with yellow cotyledons and wrinkled seeds with yellow cotyledons.

**Answer:**

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**28.** Test cross involves

A. Crossing between two genotypes with recessive trait

B. Crossig between two $F_1$ hybrids

C. Crossing the $F_1$ hybrid with a double recessive genotype

D. Crossing between two genotypes with dominant trait

**Answer:**

Watch Video Solution

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

A. $9:1$

B. $1:3$

C. $3:1$

D. $50:50$

**Answer:**

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**30.** The genotype of a plant showing the dominant phenotype can be determined by

A. Back cross

B. Test cross

C. Dihybrid cross

D. Pedigree analysis

**Answer:**

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**31.** Select the correct statements from the ones given below with respect to dihybrid cross

A. Tightly linked genes on the same chromosomes show very few combination.

B. Tightly linked genes on the same chromosomes show higher

combinations

C. Genes far apart on the same chromosomes show very few recombinations.

D. Genes loosely linked on the same chromosomes show similar recombinations as the tightly linked ones.

**Answer:**

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**32.** Which Mendelian idea is depicted by a cross in which $F_1$ generation resembles both the parents.

A. Tightly linked genes on the same chromosomes show very few combination.

B. Tightly linked genes on the same chromosomes show higher combinations

C. Genes far apart on the same chromosomes show very few recombinations.

D. Genes loosely linked on the same chromosomes show similar recombinations as the tightly linked ones.

**Answer:**

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**33.** Fruit color in squash is an example for

A. Recessive epistasis

B. Dominant epistasis

C. Complementary genes

D. Inhibitory genes

**Answer:**

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**34.** In his classic experiments on Pea plants, Mendel did not use

A. Flowering position

B. Seed colour

C. Pod length

D. Seed shape

**Answer:**

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**35.** The epistatic effect, in which the dihybrid cross $9:3:3:1$ between AaBb AaBb is modified as

A. Dominance of one allele on another allele of both loci

B. Interaction between two alleles of different loci

C. Dominance of one allele to another alleles of same loci

D. Interaction between two alleles of same loci

**Answer:**

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**36.** In a test cross involving $F_1$ dihybrid flies, more parental type offspring were produced than the recombination type off spring. This indicates

A. The two genes are located on two different chromosomes

B. Chromosomes failed to separate during meiosis

C. The two genes are linked and present on the same chromosome.

D. Both of the characters are controlled by more than one gene

**Answer:**

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**37.** The genes controlling the seven pea characters studied by Mendel are known to be located on how many different chromosomes ?

A. Seven

B. Six

C. Five

D. Four

**Answer:**

Watch Video Solution

**38.** Which of the following explains how progeny can posses the combinations of traits that none of the parent possessed ?

A. Law of segregration

B. Chromosome theory

C. Law of independent assortment

D. Polygenic inheritance

**Answer:**

Watch Video Solution

**39.** 'Gametes are never hybrid". This is a statement of

A. Law of dominance

B. Law of independent assortment

C. Law of segregation

D. Law of random fertilization

**Answer:**

Watch Video Solution

**40.** Gene which suppresses other genes activity but does not lie on the same locus is called as

A. Epistatic

B. Supplment only

C. Hypostatic

D. Codominant

**Answer:**

Watch Video Solution

**41.** Pure tall plants are crossed with pure dwarf plants. In the $F_1$ generation, all plants were tall. These tall plants of $F_1$ generation were selfed and the ratio of tall to dwarf plants obtained was $3:1$. This is called

A. Dominance

B. Inheritance

C. Codominance

D. Heredity

**Answer:**

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**42.** The dominant epistasis ratio is

A. 9:3:3:1

B. 0.50209490740741

C. 0.37712962962963

D. 0.37917824074074

**Answer:**

Watch Video Solution

**43.** Select the period for Mendel's hybridization experiments

A. 1856 - 1863

B. 1850 - 1870

C. 1857 - 1869

D. 1870 - 1877

**Answer:**

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**44.** (a) Bring out the inheritance of chloroplast gene with on example.

Chloroplast Inheritance

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**45.** Father of Genetics, Gregor Johann Mendel was born on.

A. $22^{nd} September 1822$

B. $20(nd)J\underline{y}1822$

C. $23^{rd}J\underline{y}1822$

D. $22^{nd}J\underline{y}1832$

**Answer:**

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**46.** The first systematic researcher in the field of genetics.

A. Huge De Vries

B. H. Nilsoon

C. Mendel

D. W. Bateson

**Answer:**

Watch Video Solution

**47.** Who introduced the term genetics.....

A. Watson

B. W. Bateson

C. Mendel

D. Carl Correns

**Answer:**

Watch Video Solution

**48.** This is a method followed by Mendel in flowers to avoid self-fertilization.

A. Hybridization

B. Emasculation

C. Sterilization

D. Bagging

**Answer:**


**49.** The gene responsible for the production of anthocyanin pigment.

A. Gene R

B. Pigment A

C. Pea Gene A

D. Gene C

**Answer:**

Watch Video Solution

**50.** Write the $F_2$ phenotypic ratio of (i) Recessive epistasis (ii) Duplicate genes

A. $12:3:1$

B. $9:4:3$

C. $9:3:4$

D. $13:3$

**Answer:**

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**51.** The gene for cytoplasmic male sterility in pearl maize in found in.

A. Nuclear DNA

B. Cytoplasmic DNA

C. Plasmid

D. Mitochondrial DNA

**Answer:**

Watch Video Solution

**52.** Genotypes and phenotypes of a cross are graphically represented by.

A. Checks

B. Square board

C. Punnett's Square

D. Cross board

**Answer:**

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**53.** The phenomenon in which two alleles are expressed simultaneously in te heterozygous condition.

A. Incomplete dominance

B. Epistatic

C. Atavism

D. Codominance

**Answer:**

 Watch Video Solution

**54.** The process in which the F1 hybrid is crossed with any one of the parental genotypes is

A. Test cross

B. Dihybrid cross

C. Back cross

D. Monohybrid cross

**Answer:**

Watch Video Solution

**55.** If two genes experience independent assortment, which assumption is most likely true?

A. They are located in close proXIImity on the same chromosome

B. Crossing over between the genes does not occur

C. The genes are located on different chromosomes

D. The expression of one gene does not affect the expression of the other

**Answer:**

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**56.** The $F_1$ cross which produces 8 different gametes and 64 different zygotes is observed in.

A. Monohybrid cross

B. Dihybrid cross

C. Trihybrid cross

D. Dihybrid test cros

**Answer:**

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**57.** In a cross between heterozygous tall Tt and homozygous tall TT. There is a progeny of 12. How many of them would be tall?

A. 6

B. 8

C. 12

D. 9

**Answer:**

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**58.** Which one is the recessive trait of the seven characters studied by Mendel?

A. Yellow pod colour

B. Green pod colour

C. Inflated pod form

D. AXIIal flower position

**Answer:**

Watch Video Solution

**59.** The number of types of gametes produced by homozygous parent is.

A. 3

B. 1

C. 2

D. 4

**Answer:**

 Watch Video Solution

**60.** The character that is expressed in the $F_1$ generation of monohybrid cross is

A. Heterozygous recessive

B. Homozygous recessive

C. Heterozygous dominant

D. Homozygous dominant

**Answer:**

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**61.** The experiment demonstrated in the wheat kernels to explain the combined effect of several genes on a singly trait was done by.

A. Bateson

B. E. Baur

C. H. Nilsson Ehle

D. Mendel

**Answer:**

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**62.** The cross that helps to identify the heterozygosity of the hybrid.

A. Recessive back cross

B. Back cross

C. Test cross

D. Dominant back cross

**Answer:**

 Watch Video Solution

**63.** The inheritance that affects the height and the skin colour in humans.

A. Polygenic inheritance

B. Multiple inheritance

C. Choloroplast inheritance

D. Mitochondrial inheritance

**Answer:**

Watch Video Solution

**64.** An allele is .....

A. Homozygous gene

B. Heterozygous gene

C. Gene

D. Alternate form of gene

**Answer:**

Watch Video Solution

**65.** The gene that suppresses or masks the phenotypic expression of a gene at another locus is.

A. Hypostatic

B. Epistatic

C. Dominant

D. Recessive

**Answer:**

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**66.** Identify the Non-Mendelian inheritance.

A. Extra Nuclear inheritance

B. Extra chromosomal inheritance

C. Monohybrid cross

D. Both a and b

**Answer:**

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**67.** Mendel's paper entitled.....was published in the Brunn society of Natural History.

A. Study of Pea plant

B. Experiments on plant

C. Experiments on pea plant

D. Experiments on plant hybrids

**Answer:**

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**68.** Mendel's theory of inheritance is known as.

A. Particular theory

B. Gene theory

C. Hereditary

D. factors theory

**Answer:**

Watch Video Solution

**69.** Pea Gene A is responsible for the production of.

A. Protein

B. White pigment

C. Anthocyanin pigment

D. Active protein

**Answer:**

Watch Video Solution

**70.** The $F_1$ heterozygous individuals are called.

A. TT

B. tt

C. Hybrids

D. Zygotes

**Answer:**

Watch Video Solution

**71.** Phenotypic ration of monohybrid cross

A. $1:2:1$

B. $2:1$

C. $3:1$

D. $1:1$

**Answer:**

Watch Video Solution

**72.** The plant height in the pea plant is controlled by the active form of.

A. AuXIIns

B. Proteins

C. Multiple genes

D. GIbberellines

**Answer:**

Watch Video Solution

**73.** The phenotypic ratio of dihybrid cross is.

A. $9:3:3:1$

B. $13:2:1$

C. $12:3:1$

D. $9:2:3:2$

**Answer:**

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**74.** Mendel's dihybrid ratio is based on the probability including.

A. Segregation

B. Independent assortment

C. Random fertilization

D. All of the above

**Answer:**


**75.** Identify which is not an intragenic gene interaction.

A. Codominance

B. Multiple inheritance

C. Pleiotropic genes

D. Epistasis

**Answer:**


**76.** E.Baur reported a lethal gene in Sanpdragon. It is an example for.

A. Heterozygous lethality

B. Dominant lethality

C. Recessive lethality

D. None of these

**Answer:**


**77.** Sickle cell anaemia is an example for which type of intragenic gene interaction.

A. Codominance

B. Pleiotropy

C. Multiple alleles

D. Incomplete dominance

**Answer:**

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**78.** The phenotypic ratio of the supplementary gene interaction is.

A. $9:6:1$

B. $9:7$

C. $9:3:4$

D. $13:3$

**Answer:**

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**79.** The laws proposed by Mendel from the observations on monohybrid cross.

A. Law of dominace and law of segregation

B. Law of recessive and law of dominance

C. Law of genes and law of alleles

D. Law of assortment and law of recessive

**Answer:**

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**80.** The law of dominance and the Law of segregation gives suitable explanation to Mendel's.

A. Reciprocal cross

B. Test cross

C. Dihybrid cross

D. Monohybrid cross

**Answer:**

Watch Video Solution

**81.** Le allele codes for the functional enzyme.

A. GA

B. GA3

C. GA1

D. GA4

**Answer:**

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**82.** The particular units that are transmitted from one generation to another is called.

A. Gene

B. Factors

C. Functional unit of inheritance

D. All the three

**Answer:**


**83.** Mendel's data is concerned with the proportions of.

A. Parents

B. Characters

C. Offspring

D. Individuals

**Answer:**

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**84.** Which is an universal genetic material?

A. DNA

B. Protoplast

C. Chloroplast

D. Cytoplasm

**Answer:**

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**85.** What forms the raw materials for evolution?

A. Alleles

B. Heredity

C. Variation

D. Genes

**Answer:**

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**86.** Punnett's square is named after the British Geneticist.

A. Reginald C. Punnett

B. Genetic material

C. Gregor Mendel

D. Alleles

**Answer:**

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**87.** The independent, self-replicating extra chromosomal unit located in the cytoplasmic organelles is called.

A. nucleus

B. plasmid

C. golgi body

D. ribosome

**Answer:**

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**88.** The term ..... Is the genetic constitution of an individual.

A. Plasmid

B. Chloroplast

C. Plasmagene

D. All of the above

**Answer:**

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**89.** Genetics is a science which deals with.

A. Heredity

B. Variation

C. Heredity and variation

D. None of the above

**Answer:**

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**90.** Identify the trait which is affected by polygenes and environmental factors.

A. Human eye colour

B. Human hair colour

C. Human height and skin colour

D. None of the above

**Answer:**

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**91.** Mendel studied.....pairs of contrasting traits of pea plant.

A. Five

B. Seven

C. Nine

D. Eleven

**Answer:**

Watch Video Solution

**92.** What were the subjects, Mendel applied in his breeding experiments along with biology?

A. Mathematics and History

B. Mathematics and Chemistry

C. Mathematics and Statistics

D. Mathematics and Ecology

**Answer:**

Watch Video Solution

**93.** Pure line breed.

A. Homozygosity

B. Heterozygosity

C. Offspring

D. Hybrids

**Answer:**

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**94.** Recessive traits of garden peas, seed shape and colour are.

A. Wrinkled, Yellow

B. Wrinkled, Green

C. Round, Yellow

D. Round, Green

**Answer:**

Watch Video Solution

**95.** The gene for plant height character.

A. Le

B. Fa

C. GP

D. V

**Answer:**

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**96.** No blending of genes is seen in this type of intragenic gene interaction.

A. Incomplete dominance

B. Codominance

C. Multiple alleles

D. Pleiotropy

**Answer:**

Watch Video Solution

**97.** The pigment produced by the mutant, defective allele $R^2$ in incomplete dominance.

A. Yellow

B. Pink

C. White

D. Red

**Answer:**

Watch Video Solution

**98.** The ABO blood group is due to.

A. Codominance

B. Complete dominance

C. Incomplete dominance

D. Over dominance

**Answer:**

Watch Video Solution

**99.** The three traits which are controlled by a single pleiotropic gene having dominant and recessive alleles in Pisum sativum.

A. Pod colour, seed colour and leaf aXIII spot

B. Flower colour, seed colour and leaf aXIII spot

C. Flower colour, seed colour and pod colour

D. None of the above

**Answer:**

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**100.** The ratio of the $F_2$ generation showing polygenic inheritance?

A. $63:1$

B. $62:2$

C. $23:1$

D. $9:3:3:1$

**Answer:**

Watch Video Solution

**101.** The reappearance of an ancestral trait in the present day plants is called.

A. Polygenic inheritance

B. Pleiotropy

C. Atavism

D. Epistasis

**Answer:**

Watch Video Solution

**102.** The precursor molecule involved in the height in Mendel's pea plant.

A. Lele

B. AuXIIn

C. Gibberellin

D. Cytokinin

**Answer:**

Watch Video Solution

**103.** The character located on the 7th chromosome of pea plant.

A. Flower colour

B. Seed shape

C. Seed colour

D. Pod shape

**Answer:**

Watch Video Solution

**104.** The gene responsible for pod shape in pea plant.

A. V

B. R

C. GP

D. A

**Answer:**

Watch Video Solution

**105.** The dominant character in pea plant.

A. Yellow pod colour

B. Green pod colour

C. Constricted pod shape

D. White flower colour

**Answer:**

Watch Video Solution

**106.** The genotype responsible for yellow fruit in summer squash.

A. wwGg

B. wwgg

C. Wwgg

D. WwGg

**Answer:**

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**107.** The ratio occuring in polygenic inheritance of wheat kernel.

A. $1:6:15:20:16:5$

B. $1:6:15:20:15:5:1$

C. $1:6:15:20:15:6:1$

D. $1:6:15:20:16:6:1$

**Answer:**

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**108.** This plant cannot be used for crossing.

A. Female plant with sterile cytoplasm

B. Male plant with normal cytoplasm

C. Male plant with normal cytoplasm

D. Female plant with normal cytoplasm

**Answer:**

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**109.** Who proposed the chromosome theory of inheritan _____

A. Monohybrid cross

B. Dihybrid cross

C. Trihybrid cross

D. Test cross

**Answer:**

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**110.** Electrophoresis or chromatography demostrates this.

A. Multiple alleles

B. Polygenes

C. Incomplete dominance

D. Codominance

**Answer:**

Watch Video Solution

**111.** Continuous variation is due to?

A. Pisum sativum

B. Wheat kernel

C. Mirabilis jalapa

D. ABO blood group

**Answer:**

Watch Video Solution

**112.** Mendel's last law is

A. Incomplete dominance

B. Dominant epistasis

C. Polygenic inheritance

D. Mitochondrial inheritance

**Answer:**

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**113.** Assertion: In intergenic gene interactions, interlocus interactions take place between the alleles at different loci.

Reason: In the first locus, the white is dominant to yellow and green colour wheras in the second locus, yellow is dominant to green colour.

A. Both assertion and reason are true and reason is correct explanation of

assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

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**114.** Assertion: Genes can exist in alternate forms.

Reason: Allele for the height of pea plant is expressed as Tall (T) and Dwarf (t).

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

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**115.** Assertion: The results of the dihybrid cross led to the generalization of law of independent assortment.

Reason: This law deals with the linked genes.

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

**116.** Assertion: Test cross is a cross between an individual of unknown genotype with a homozygous recessive.

Reason: Only the recessive character of an individual can be identified.

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

 Watch Video Solution

**117.** Assertion: The results of the reciprocal crosses are the same.

Reason: When the parental types are reversed and matings are done in both ways, it is called reciprocal cross.

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of

assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**


**118.** Assertion: When there is osmotic balance in the seed, it results in smooth, round seeds.

Reason: During seed maturation, starch branchin enzyme (SBE-I) converts linear

unbranched starch amylose to highly branched starch amylopectin.

A. Both assertion and reason are true and reason is correct explanation of assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

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**119.** Assertion: Intermediate phenotype pink coloured flower is seen in $F_1$ generation showing incomplete dominance.

Reason: One allele is not completely dominant to another allele during alletic interaction.

A. Both assertion and reason are true and reason is correct explanation of

assertion.

B. Both assertion and reason are true but reason is not correct explanation of assertion.

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

**Answer:**

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