



BIOLOGY

BOOKS - CBSE COMPLEMENTARY MATERIAL BIOLOGY (HINGLISH)

PRINCIPLES OF INHERITANCE AND VARIATION

Questions Vsa

1. Name the base change and the amino acid change, responsible for sickle cell anaemia.



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2. Name the disorder with the following chromosome complement

(i) 22 pairs of autosomes+ XXY.

(ii) 22 pairs of autosomes+21st chromosome+XY.



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3. A test is performed to know whether the given plant is homozygous dominant or heterozygous. Name the test and phenotypic ratio of this test for a monohybrid cross.



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4. Write the number of chromosomes body cells of honey bee worker and drone have.



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Questions Sa I

1. Identify the sex of organism as male or female in which the sex chromosomes are found as (i) ZW in birds (ii) XY in *Drosophila* (iii) ZZ in birds, (iv) XO in grasshopper.



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2. The human male never passes on the gene for haemophilia to his son. Why is it so ?



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3. Mention four reasons why *Drosophila* was chosen by Morgan for his experiments in genetics.



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4. Differentiate between point mutation and frameshift mutations.



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Questions Sa li

1. A woman with O blood group marries a man with AB blood group

(i) Work out all the possible phenotypes and genotypes of the progeny.

(ii) Discuss the kind of dominance in the parents and the progeny in this case.



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2. Give reasons for success of Mendel.



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3. In Mendel's breeding experiment on garden pea, the offspring of F_2 generation are obtained in the ratio of 25% pure yellow pod, 50% hybrid green pods and 25% green pods. State (i) which pod colour is dominant (ii) The Phenotypes of the individuals of F_1 generation, (iii) Workout the cross.



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Questions La

1. A dihybrid heterozygous round, yellow seeded garden pea (*Pisum sativum*) was crossed with a double recessive plant. What type of cross is this ?



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2. A dihybrid heterozygous round, yellow seeded garden pea (*Pisum sativum*) was crossed with a double recessive plant. Work

out the genotype and phenotype of the progeny.



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3. A dihybrid heterozygous round, yellow seeded garden pea (*Pisum sativum*) was crossed with a double recessive plant. What principle of Mendel is illustrated through the result of this cross ?



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