



# BIOLOGY

## BOOKS - PSEB

# PRINCIPLES OF INHERITANCE AND VARIATION

### Exercise

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



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2. Differentiate between the following :

Dominance and Recessive



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3. Using a Punnett Square, workout the distribution of phenotypic features in the first filial generation after a cross between a

homozygous female and a heterozygous male for a single locus.



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4. When a cross is made between tall plant with yellow seeds ( $TtYy$ ) and tall plant with green seed ( $Ttyy$ ), what proportions of phenotype in the offspring could be expected to be: tall and green



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5. When a cross is made between tall plant with yellow seeds ( $TtYy$ ) and tall plant with green seed ( $Ttyy$ ), what proportions of phenotype in the offspring could be expected to be: dwarf and green.



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



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7. What is pedigree analysis? Suggest how such an analysis, can be useful.



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8. How Is sex determined in human beings?



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9. 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.



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**10.** Explain the following terms with example:

Co-dominance



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**11.** Explain the following terms with example:

Incomplete dominance



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**12.** What are Point Mutations ? Give one example of Point Mutations.



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**13.** Who had proposed the chromosomal theory of the inheritance?



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**14.** Mention any two autosomal genetic disorders with their symptoms.



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