

National Institute of Open Schooling
Senior Secondary -Biology
Lesson 22: Principles of Genetics
Worksheet -22

1. Define heredity and Genetics? State three Mendel's law of Inheritance?
2. Why the law of segregation is called as law of purity of gametes.
3. Define the following
 - a) Di hybrid cross
 - b) Lethal genes
 - c) Sex determination
4. Differentiate between Dominance, co-dominance and incomplete dominance
5. Write a note on the following
 - a. Down's Syndrome
 - b. Klinefelter's syndrome
 - c. Sickle cell anemia
6. Why colour blindness more prominent in males than females.
7. What is amniocentesis? How and for what it is carried out?
8. Why is X- linked inheritance termed criss cross inheritance?
9. Consider a hypothetical case of a cross between a tall plant (TT) and a dwarf plant (tt). Predict the phenotypic and genotypic ratios of the following. Also mention whether the cross is a monohybrid or dihybrid cross.
 - a) TT X Tt
 - b) Tt X TT
10. Explain with the help of a chart what will be the colour of a child's hair if father has got dominant gene for black hair and mother has recessive gene for brown hair?