

GIRLS' HIGH SCHOOL COLLEGE
2020-2021
CLASS 12th A
BIOLOGY WORKSHEET-06
GENETICS

INTRODUCTION: Parents please ensure that your ward refers to the given reference books at least for two days.

Reference Books:

1. Nootan ISc Biology Class XII Nageen Prakashan
2. Balaji ISc Biology, A Textbook for Class XII Shri Balaji Publications

ANSWER THE FOLLOWING QUESTIONS:

1. What do you understand by Sex Chromosomes and Auto Chromosomes?
2. Explain the process of sex determination where:
 - a. Female Homogametic (xx) and male is heterogametic (xy).
(Refer to page 168 and 169, Nootan Biology).
 - b. Male is Homogametic and (zz) and female is Heterogametic (zw).
3. What is a linkage group? How many linkage groups are found in man?
4. What is Chromosomal mapping and what is its significance?
5. What is crossing over? State its significance.
6. Define the following terms:
 - a. Linkage
 - b. Mutation
 - c. Polyploidy
7. How can xxy individual arise in human? Explain.

- 8. Explain the following Mendelian disorders in humans.**
- a. Sickle cell Anemia**
 - b. Phenylketonuria**
 - c. Thalassemia**
 - d. Colour blindness (Refer to page 175-176)**
- 9. Give reasons for the following chromosomal Abnormalities in humans:**
- a. Downs Syndrome**
 - b. Klinefelters syndrome**
 - c. Turners syndrome (Refer to page 176-177)**
- 10. What are frame shift mutations? How many kinds of frame shift mutations are there? Explain briefly.**
- 11. Explain the following terms:**
- a. Monosomy**
 - b. Aneuploidy**
- 12. A non-haemophilic couple was informed by their doctor that there is a possibility of a haemophilic child be born to them. Explain the basis on which the doctor conveyed this information? Give the genotype of all the possible children who will be born to them.**
- 13. In humans, genetically, the sex of the child is determined by the father and not by the mother. Explain.**

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