

Kline Memorial School of UBS

Subject: Biology Worksheet 3

Std – IX

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Teacher: Sunanda Singh

Chapter: Genetics

Q1. Explain the following terms:

- i) Alleles
- ii) Homologous Chromosome
- iii) Phenotype
- iv) Gene
- v) Heredity
- vi) Pedigree Chart

Q2. Name the following: -

- i) The number of homologous chromosomes in each normal human cell.
- ii) The plant used by Mendel for his experiment.
- iii) Total number of chromosomes in humans.
- iv) The sex chromosomes of a male.
- v) The allele which expresses itself on the other.
- vi) The condition in which both the alleles are identical.
- vii) A hereditary disease in which blood does not clot.
- viii) Father of Genetics.

Q3. Complete the following: -

- i) The small differences among individuals are called _____.
- ii) A character that is suppressed is called _____.
- iii) The dissimilar pair of genes present in an individual are known as _____.
- iv) _____, do not take part in sex determination.
- v) The genetic makeup of an organism is _____.

Q4. Distinguish between: -

- i) Genotype and Phenotype
- ii) Character and trait
- iii) Autosomes and sex chromosomes

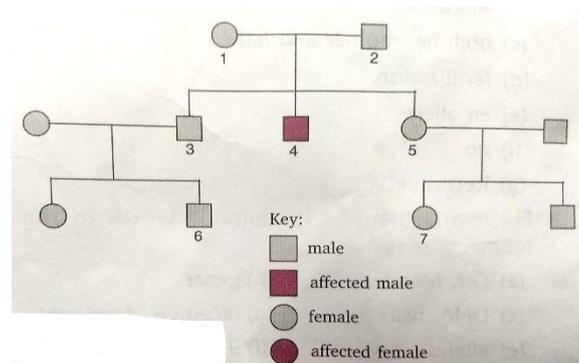
Q5. Answer the following questions :-

- i) What is sex-linked inheritance?
- ii) Name two sex-linked diseases in males.
- iii) How is the sex of a child determined in humans?
- iv) A hemophilic man married a normal woman. What would be the progeny of this marriage?

Q6. The karyotype (set of chromosomes) shown alongside is taken from a dividing cell in a certain individual.

- i) Is the individual male or female? Explain your answer.
- ii) How would you expect a (a) female cell (b) sperm cell to differ in chromosome composition?

Q7. The figure given below shows a family pedigree (family tree) to show the inheritance of cystic fibrosis.



- i) Is the allele for cystic fibrosis dominant or recessive?
- ii) State with reasons the genotype of individuals 1, 2 and 4.
- iii) What are the possible genotypes of individuals 3 and 5?