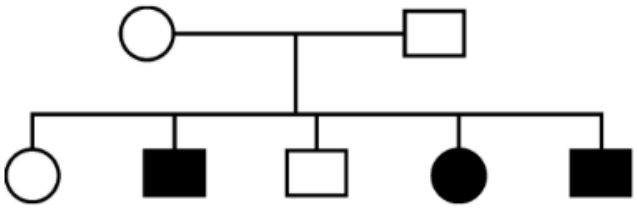
INDIAN SCHOOL NIZWA - WORKSHEET

BIOLOGY

CH:4 Principles of Inheritance and Variation

Name: _____ Date:_____ Class: XII Sec: A

1.	Select the incorrect match from the following: Human Karyotype Characters (A) 45 + XX: Broad palm with characteristic palm crease (B) 44 + XXY: Overall feminine development (C) 44 + XO: Sterile females as ovaries are rudimentary (D) 44 + XY: Normal male
2.	Match the items in Column I with those in Column II and select the correctly matched option from those given below: Column I — Cross 1. Mendelian monohybrid 2. Mendelian dihybrid 3. Incomplete dominance 4. Test cross (monohybrid) Column II — Phenotypic Ratio (i) 1:2:1 (F2) (ii) 1:1 (iii) 3:1 (F2) (iv) 9:3:3:1 (F2) Options: (A) 1 (ii), 2 (iv), 3 (i), 4 (iii) (B) 1 (iii), 2 (i), 3 (iv), 4 (ii) (C) 1 (iii), 2 (iv), 3 (i), 4 (ii) (D) 1 (ii), 2 (i), 3 (iv), 4 (iii)
3.	Identify the category of genetic disorder depicted in the pedigree chart given below:  (A) X-Linked recessive (B) X-Linked dominant (C) Autosomal recessive (D) Autosomal dominant
4.	Turner's syndrome in humans occurs due to _____. (A) Aneuploidy (B) Euploidy (C) Polyploidy (D) Autosomal abnormality

5.	A single gene that controls the expression of more than one trait is said to show _____. (A) Multiple allelism (B) Polygenic inheritance (C) Incomplete dominance (D) Pleiotropism
6.	Assertion (A) : Linked genes do not show dihybrid F2 ratio 9 : 3 : 3 : 1. Reason (R) : Linked genes do not undergo independent assortment.
7.	Although Haemophilia and sickle cell anemia are two blood related Mendelian disorders, yet, they differ in their pattern of inheritance. State any two differences.
8.	In a family, the father, the daughter and the son are colour blind, whereas the mother has normal vision. Do you think the son and the daughter have inherited the disease from their father? Work out a cross to justify your answer. (3m)
9.	A tall pea plant bearing violet flowers with unknown genotype is given. Find the genotype by working out different crosses only by selfing the plants. Write the genotypic and phenotypic ratios of each cross shown by you.
10.	(i) Compare the pattern of inheritance of flower colour in garden pea plant (violet/white) with snapdragon plant (red/white) on the basis of the following : (1) F1 phenotypic expression; (2) expected phenotypic and genotypic expression of F2 generation; (3) the conclusion you reached at the end of the comparison made. (ii) List any two characteristics of pattern of inheritance of human blood group ABO.