C4-PRINCIPLES OF INHERITANCE

I. CHOOSE THE CORRECT ANSWERS 5 x1=5

1. If the childs blood group is 'O' and fathers blood group is 'A' and mother's blood group is 'B' the genotype of the parents will be
   a) IA IA and IB I° b) IA I° and IB I°
   c) IA I° and I°I° d) I°I° and IB IB
2. In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred?
   a) O and Rh negative b) O and Rh positive
   c) B and Rh negative d) AB and Rh positive
3. A marriage between a colourblind man and a normal woman produces
   a) All carrier daughters and normal sons
   b) 50% carrier daughters and 50% normal daughters
   c) 50% colourblind sons and 50% normal sons
   d) All carrier offsprings
4. Father of a child is colourblind and mother is carrier for colourblindness, the probability of the child being colourblind is
   a) 25% b) 50% c) 100% d) 75%
5. Which of the following is true about Rh factor in the offspring of a parental combination Dd × Dd (both Rh positive)?
   a) All will be Rh positive b) Half will be Rh positive
   c) About ¾ will be Rh negative d) About one fourth will be Rh negative

II VERY SHORT ANSWERS 3 x 2 = 6

6. Mention the symptoms of Phenylketonuria.
7. What are holandric genes?
8. What is male heterogamety?

III SHORT ANSWERS 3 x 3 = 9

9. Explain the mode of sex determination in honeybees.
10. Explain the genetic basis of ABO blood grouping in man.
11. What is haplodiploidy?

IV LONG ANSWERS 1 x 5 = 5

12. What are the applications of Karyotyping?

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