

**B.Sc. 5th Semester Honours (Practical) Examination, 2022 (CBCS)**

**Subject: Zoology**

**Paper: CC-12 (Genetics)**

**Time: 3 Hours**

**Full Marks: 20**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

1. Study the pedigree provided to you and answer the following questions: (1+2+2+1=6)

- (a) Description of the pedigree
- (b) Analysis of the pedigree
- (c) Probable genotype of the offspring
- (d) What kind of inheritance is observed from the pedigree?

2. The following 3 recessive markers are known in lab mice: h-hot foot, o-obese, and wa-waved. A trihybrid of unknown origin is test crossed, producing the following offspring: (2+2+2=6)

Phenotypes	Number
hot foot, obese, waved	357
hot foot, obese	74
waved	66
obese	79
wild type	343
hot foot, waved	61
obese, waved	11
hot foot	9
Total	1000

- (a) Find out the relative order of genes
- (b) Find out the map distance between the genes
- (c) Find the crossover interference

3. Identify the disorder from the photographs of the human karyotypes(A,B,C) and write any 3 symptoms of the disorders. (3\*2=6)

4. Lab Notebook

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