



# TEST PAPER: BIOLOGY

**Time:** 45 Minutes

**Class:** CBSE 10

**Max. Marks:** 30 Marks

**Date:** 17<sup>th</sup> Oct 2018

**Marking Scheme:** All questions carry 10 marks each. Subparts (A) and (B) carry 3 marks each and subpart (C) carries 4 marks.

## Question 1:

### A. Define.

1. Variation.
2. Speciation.
3. Species.

### B. Give reason.

1. The creation of variations in a species promotes its survival.
2. A father is responsible for the sex of a child.
3. Acquired traits are not inherited.

### C. Answer the following.

1. Wings of a crow and wings of a butterfly- State if these organs are homologous or analogous? Give suitable reason to support your answer.
2. Cat's paw, human hand and horse's legs-are these organs homologous or analogous? Give suitable reason.

## Question 2.

### A. Differentiate.

1. Acquired & inherited traits.
2. Homozygous & heterozygous conditions of a gene combination.
3. Artificial selection and natural selection of traits.

### B. Complete the sentences.

1. Darwin's theory of evolution tells us how \_\_\_\_\_.
2. Mendel's experiments give us the mechanism for \_\_\_\_\_.
3. But neither tells us anything about how \_\_\_\_\_.

C. A man with blood group A marries a woman with blood group O and their daughter has blood group O. So-

1. Is this information enough to tell you which of the traits – blood group A or O – is dominant?
2. Why or why not?

## Question 3.

A. A cross was made between pure breeding pea plants one with round and green seeds and the Other with wrinkled and yellow seeds.

- (a) Write the phenotype of F<sub>1</sub> progeny. Give reason for your answer.
- (b) Write the different types of F<sub>2</sub> progeny obtained along with their ratio when F<sub>1</sub> progeny was selfed.

### B. Describe the three tools of determining the evolutionary relationships in short.

### C. Explain.

1. How will new species arise in these cases?
  - a) Two sub-populations are separated due to a huge mountain in between them?
  - b) A small population of individuals gets drifted away from the main land due to sea?
2. Only advantageous variations help in the evolution of an organism giving rise to a new species. Explain with the help of an example.