

Science

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(Chapter – 9) (Heredity and Evolution)

(Class – X)

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Question 1:

What are the different ways in which individuals with a particular trait may increase in a population?

Answer 1:

Individuals with a particular trait may increase in a population as a result of the following:

- (i) Natural selection: When that trait offers some survival advantage.
- (ii) Genetic drift: When some genes governing that trait become common in a population.
- (iii) When that trait gets acquired during the individual's lifetime.

Question 2:

Why are traits acquired during the life-time of an individual not inherited?

Answer 2:

This happens because an acquired trait involves change in non-reproductive tissues (somatic cells) which cannot be passed on to germ cells or the progeny. Therefore, these traits cannot be inherited.

Question 3:

Why are the small numbers of surviving tigers a cause of worry from the point of view of genetics?

Answer 3:

Small numbers of tigers means that fewer variations in terms of genes are available. This means that when these tigers reproduce, there are less chances of producing progeny with some useful variations. Hence, it is a cause of worry from the point of view of genetics.

