



HEREDITY & EVOLUTION

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SCIENCE PRACTICE PAPER 05

Total Marks : 20

I. Choose the Most Appropriate Answers

3 x 1 = 3

- Independent inheritance of two separate traits, shape and colour of seeds in Mendel's cross on pea plants resulted in a observable ratio of
  - 3 : 1
  - 9 : 3 : 3 : 1
  - 1 : 1
  - 9 : 4 : 2 : 1
- Two pink coloured flowers on crossing resulted in 1 red, 2 pink and 1 white flower progeny. The nature of the cross will be
  - Double fertilisation
  - Self pollination
  - Cross fertilisation
  - No fertilisation
- If a round, green seeded pea plant (RR yy) is crossed with wrinkled, yellow seeded pea plant (rr YY), the seeds produced in F1 generation are
  - Round and yellow
  - Round and green
  - Wrinkled and green
  - Wrinkled and yellow

II. Answer the following questions

2 x 1 = 2

- What is a gene?
- Define variation in relation to a species

III. Answer the Following questions

4 x 2 = 8

- Describe briefly four ways in which individuals with a particular trait may increase in a population.
- What are fossils? What do they tell us about the process of evolution?
- The human beings who look so different from each other in terms of colour, size and looks are said to belong to the same species. Why?
- Define the terms: (i) Speciation (ii) Natural selection

IV. Answer the following questions

1 x 3 = 3

- Distinguish between acquired and inherited traits by giving one example of each. Why are traits acquired during the lifetime of an individual not inherited?

V. Answer the following questions

1 x 4 = 4

- State the meaning of inherited traits and acquired traits. Which of the two is not passed on to the next generation? Explain with the help of an example