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Answers Key:

Case Study Questions

1. (a) (i) Properties of tissues are not present in the constituent cells.
   (ii) Properties of cellular organelles are not present in their molecular constituents.
   (b) Living organisms can be defined as the selfreplicating, evolving and self-regulating interactive systems capable of responding to external stimuli.

5 Marks

2. **General Rules for Nomenclature:**
   i) Biological names are generally in Latin and written in italics. They are Latinised or derived from Latin irrespective of their origin.
   ii) The first word in a biological name represents the genus.
   iii) The second component denotes the species.
   iv) Both the words in a biological name, when handwritten, are separately underlined or printed in italics to indicate their Latin origin.
   v) The first word denoting the genus starts with a capital letter while the second word denoting species starts with a small letter.

3 Marks

3.

Cat	-	Felis catus
Rose	-	Rosa indica
Sparrow	-	Passer domestica

4. In a botanical garden, various plant species are reared. Special artificial climate is created for a plant's specific needs. The purpose of botanical garden is to maintain a rich flora of diverse species. Since they are live specimens so they help scientists in studying physiology and anatomy over a long duration. Imagine if Mendel were given a botanical garden full of variety of species. He could have done experiment on so many plants and may have come with more insights.

2 Marks

5. The sum total of all chemical reactions occurring in an organism due to specific interactions amongst different types of molecules within the cells, is called metabolism.
6. In plants, growth continues throughout the life as they have meristematic regions, where the cell division occurs continuously. In animals, growth occurs only upto a certain age, after which cells divide only to replace worn out and lost cells.

Multiple Choice Question

7. (b) International Code for Botanical Nomenclature
8. (b) Phylum
9. (d) Division - a group of related phyla
10. (d) (d) A is false,but R is true.
11. (c) (c) A is true, but R is false.
12. (b) (b) Both A and R are true, but R is not the correct explanation of the A.