

SECTION – I**2. Write short answers to any EIGHT (8) questions :**

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- (i) How animals of hypotonic environment osmoregulate? Give examples.
- (ii) Animals excrete nitrogenous wastes with digestive feces. Give example and significance of this adaptation.
- (iii) How land animals trap a thick layer of air around the body? Give its significance.
- (iv) What is Ecdysis?
- (v) Differentiate Hinge Joint and Ball and Socket joint by giving example.
- (vi) What is arthritis?
- (vii) Define seed dormancy. Give its significance.
- (viii) Can we find a fruit without seeds? Give example.
- (ix) What is eutrophication?
- (x) Differentiate between prairies and savanna.
- (xi) Define soil. Give its basic constituents.
- (xii) What are industrial effluents? Give their two effects.

3. Write short answers to any EIGHT (8) questions :

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- (i) What happens when an impulse reaches a synaptic knob?
- (ii) Elaborate habituation as simplest form of learning.
- (iii) Give negative effects of nicotine.
- (iv) What is a sex limited trait?
- (v) State sexual dimorphism in drosophila.
- (vi) Define linkage group.
- (vii) How gene therapy helps cancer patients?
- (viii) What are molecular scissors? How were they obtained?
- (ix) Write down the role of lambda phages as a vector.
- (x) Interpret the role of decomposers in recycling.
- (xi) Compare hydrosere with that of xerosere.
- (xii) What is parasitism? Write down its importance.

4. Write short answers to any SIX (6) questions :

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- (i) Compare gastrulation and organogenesis.
- (ii) How inhibitory effect and compensatory effect are caused?
- (iii) What is Karyotype? Give its application in species recognition.
- (iv) Give the composition of chromosomes.
- (v) Differentiate between heterochromatin and euchromatin.
- (vi) What is mitotic apparatus?
- (vii) How cancer cells can be distinguished from normal cells?
- (viii) What is modern synthesis or Neo-Darwinism?
- (ix) What are analogous organs? Give example.

SECTION – II**Note : Attempt any THREE questions.**

5. (a) Discuss the temperature classification of animals. 4
 - (b) Discuss nitrogen depletion and its remedies. 4
 6. (a) Compare sclerenchyma cells with collenchyma cells. 4
 - (b) What is transcription? How it is carried out in cell? 4
 7. (a) Explain the steps of that mechanism which maintains the concentration of secretions in the body. 4
 - (b) Write a note on ozone depletion. 4
 8. (a) Describe the phenomena of fruit set and fruit ripening. 4
 - (b) Explain the process of crossing over with the help of diagram. 4
 9. (a) Define and explain embryonic induction. 4
 - (b) $p + q = 1$ 4
- Argue that this balance shown in theorem may not vary for a non-evolving population? 4