

SECTION – I**2. Write short answers to any EIGHT parts.**

16

- (i) Define osmoregulation and thermoregulation.
- (ii) How loss of water is prevented in insects and terrestrial vertebrates?
- (iii) Define heat shock proteins at which temperature they work.
- (iv) Define phototactic and chemotactic movements.
- (v) Write few lines on disease Rickets.
- (vi) Define unguligrades. Write its two examples.
- (vii) Give two uses of biofilters.
- (viii) How gene therapy in Cancer patients be done?
- (ix) How productivity of an aquatic ecosystem can be determined?
- (x) Define Savanna and Prairies.
- (xi) Write two modifications of environment.
- (xii) Define pollution. Write only names of its four kinds.

3. Write short answers to any EIGHT parts.

16

- (i) What is habituation? Give an example.
- (ii) Characterize Pacinian Corpuscles.
- (iii) Write two uses of 2,4 dichloro phenoxy acetic acid.
- (iv) What is vernalization? Give an importance.
- (v) What is follicle atresia?
- (vi) Give some disadvantages of cloning.
- (vii) Define crossing over. Give its importance.
- (viii) What are multifactorial traits? Give an example.
- (ix) Differentiate between autosomes and sex chromosomes.
- (x) Differentiate between micronutrients and macronutrients.
- (xi) Define predation. Give its importance.
- (xii) Define primary succession.

4. Write short answers to any SIX parts.

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- (i) Define term gerontology and teratology.
- (ii) What is gray crescent?
- (iii) State "The Chromosomal Theory of Inheritance".
- (iv) What is the difference between heterochromatin and euchromatin?
- (v) Differentiate between template and coding strands.
- (vi) What changes occur in dividing cell during diplotene?
- (vii) How does cell death help in multicellular development?
- (viii) What are vestigial organs? Give an example.
- (ix) What do you mean by endosymbiont hypothesis?

SECTION – II Attempt any THREE questions. Each question carries 08 marks.**5. (a) Describe the structure of nephron of human kidney.**

04

(b) Define succession. Discuss succession on land.

04

6. (a) Discuss sliding filament model of muscle contraction.

04

(b) Write a note on transformation.

04

7. (a) Define nerve impulse. How is it initiated?

04

(b) Write a note on importance of forests.

04

8. (a) What are phytochromes? Discuss their role in photoperiodism.

04

(b) Define test cross. Discuss its both cases with example.

04

9. (a) Explain the role of nucleus in development.

04

(b) Explain the evidences of evolution from embryology and molecular biology.

04