

ote: Section I is compulsory. Attempt any THREE (3) questions from Section II.

(SECTION - I)

2. Write short answers to any EIGHT questions.

(2 × 8 = 16)

- Compare Hypotonic environment with hypertonic environment.
- What are "Malpighian Tubules"? In which organism they are found?
- Enlist the three steps in urine formation in human.
- Define secondary growth. Give its significance.
- Name the types of turgor movements.
- What is cramp? Give its two causes.
- What are the two goals of the human genome project?
- What are probes? Give its use.
- What are planktons? Give its two types.
- Differentiate between coniferous alpine and coniferous boreal forest.
- Name any two diseases which are caused due to nutritional deficiency.
- Define pollution. Give its four types.

3. Write short answers to any EIGHT questions.

(2 × 8 = 16)

- What is the main function of parathyroid gland?
- Write down commercial applications of Ethene.
- Define the term effectors. Write down names of two important effectors of humans.
- Define diplohaplontic life cycle in plants.
- How you define oviparous and viviparous?
- Define test tube babies.
- What do you know about monohybrid and dihybrid crosses?
- What do you know about "Epistasis"?
- What are "Polygenic Traits"? Give an example from human beings.
- How xerosere differentiate from hydrosere?
- What is "Prey and Predator"?
- Define the term "Plant Biomass"?

4. Write short answers to any SIX questions.

(2 × 6 = 12)

- Differentiate between point mutation and chromosomal aberrations.
- What is the role of RNA polymerase in Transcription?
- Briefly describe Alkaptonuria disease.
- Differentiate between inhibitory and compensatory effect.
- What is "Discoidal Cleavage"?
- What changes occur in cell during metaphase of mitosis?
- What is non-disjunction of chromosomes?
- Define homologous organs, give one example.
- Briefly describe, how biogeography provides an evidence for evolution?

(SECTION - II)

- Explain the process of excretion in Earthworm with labelled diagram. 2+2
  - Describe two major forms of succession. 4
- Define Antagonism. Discuss the case of Elbow joint with their phenomenon. 4
  - Write a note on Watson and Crick model of DNA. 4
- What are receptors, discuss their types. 4
  - Discuss "Greenhouse Effect" and "Acid Rain". 2+2
- Describe human female's menstrual cycle. 4
  - Define epistasis and explain it with Bomby phenotype. 1+3
- What is "Regeneration"? Discuss it in various animals. 4
  - Describe the main points of theory of natural selection. 4