

SECTION – I**2. Write short answers to any EIGHT (8) questions :****16**

- (i) Differentiate between osmoconformers and osmoregulators.
- (ii) Define uremia. What is its permanent treatment?
- (iii) Define pyrexia and pyrogens.
- (iv) Define Herniation of disc. How is it treated?
- (v) Differentiate between bone and cartilage.
- (vi) Give two modifications in the exoskeleton of arthropods.
- (vii) What is seed dormancy? Write its significance.
- (viii) Write the functions of sertoli cells and interstitial cells.
- (ix) Characterize limnetic zone and profundal zone of fresh water lake.
- (x) Write down the name of two dominant plants and two dominant animals of temperate deciduous forest.
- (xi) What is nutrient cycle? What is driving force behind these cycles?
- (xii) Write four effects of removal of forests.

3. Write short answers to any EIGHT (8) questions :**16**

- (i) What condition result due to hypo and hyper function of cortical hormones?
- (ii) Write the actions of nicotine on nervous and circulatory system.
- (iii) Define imprinting with the example of precocial birds.
- (iv) Differentiate between X-linked dominant and X-linked recessive traits.
- (v) Define monohybrids and dihybrids.
- (vi) Define linkage. Enlist linkage groups of chromosome no. 11 and 23.
- (vii) What do you know about palindromic sequence? Give an example.
- (viii) What are protoplasts? Give scientific name of biodegradable plastic.
- (ix) Give the process of coronary artery angioplasty briefly, using biotechnology.
- (x) Differentiate between food chain and food web.
- (xi) Define ammonification and nitrification.
- (xii) State parasitism and its significance.

4. Write short answers to any SIX (6) questions :**12**

- (i) Define apical meristem.
- (ii) What is inhibitory effect?
- (iii) Define transcription.
- (iv) Differentiate between heterochromatin and euchromatin.
- (v) What are three main components of a DNA?
- (vi) Differentiate between leptotene and zygotene.
- (vii) Explain Turner's syndrome.
- (viii) How genetic drift effect gene frequency?
- (ix) What are homologous organs?

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

5. (a) Explain the structure of nephron. 4
- (b) Describe predation and parasitism with their significance. 4
6. (a) Write a note on sclerenchyma cells and collenchyma cells. 4
- (b) Explain Watson and Crick Model of DNA. 4
7. (a) What is resting membrane potential? How is resting membrane potential maintained across neurolemma? 4
- (b) Describe the importance of forests. 4
8. (a) Describe fruit set and fruit ripening in angiosperms. 4
- (b) What is X-linked recessive inheritance? Explain it with an example. 4
9. (a) Describe various types of meristems. 4
- (b) How did eukaryotes evolve from prokaryotes? 4