

SECTION-I

Rwp-12-1-23

2. Write short answers of any eight parts from the following:

(8x2=16)

- Name plasma proteins synthesized by liver. Also write their functions.
- Differentiate between peritoneal and hemodialysis.
- Why leaves are said to be excretophores?
- What are the skeletal deformities because of genetic causes?
- Draw the labeled diagram of a sarcomere.
- How can you differentiate between tetany and tetanus?
- How vernalization is beneficial for plants?
- Compare oviparous with viviparous.
- What type of organisms are present in Limnetic zone of a lake ecosystem?
- How many deserts are in Pakistan? Write their names and location.
- Why the trees are called environmental buffers?
- How is ozone layer being depleted?

3. Write short answers of any eight parts from the following:

(8x2=16)

- Why AB Blood group is universal recipient?
- What is the role of recombination frequency?
- Why Haemophilia A is more common in males than females?
- What is the role of thyroxine?
- Differentiate between Meissner's corpuscles and Pacinian corpuscles.
- What are the similarities between nervous and chemical coordination?
- What are the advantages of transgenic Bacteria?
- How many possible ways to get the gene of interest?
- Differentiate between ex-vivo and in-vivo gene therapy.
- Why is a biosphere absent on moon?
- What is the importance of food web?
- How succession act as community relay?

4. Write short answers of any six parts from the following:

(6x2=12)

- Why is growth pattern in plants called "open growth"?
- Why is cleavage pattern in chick called "Discoidal Cleavage"?
- Mention the types of chromosomes depending upon the location of centromere.
- Define semi-conservative hypothesis of DNA replication.
- What is the critical change in gene that leads to sickle cell disease?
- What is mitotic apparatus?
- Write any two importances of meiosis.
- What is theory of special creation?
- Define gene pool.

SECTION-II

Note Attempt any three questions. Each question carries equal marks:

(8x3=24)

- Describe major homeostatic functions of liver. 4
 - What is cell cycle? Diagrammatically mention its different stages. 4
- Write some major functions of skeletal system. 4
 - Define Xerosere, describe its various stages. 4
- How is resting membrane potential replaced by action membrane potential across neuroloma? Explain all the factors in this replacement. 4
 - Discuss the evidences of evolution from comparative embryology and molecular biology. 2+2=4
- Explain different physiological and structural changes occurring during the process of birth in human being females. 4
 - Define probability. Derive 9:3:3:1 ratio of independent assortment through product rule. 4
- Describe the phases of growth in plants. 4
 - Explain the importance of transgenic plants.