

Biology (Subjective)

(For All Sessions)
(GROUP-II)

Time: 2:40 hours

Rwp-12-2-23

SECTION-I

2. Write short answers of any eight parts from the following: (8x2=16)
- Skin does not come within the definition of excretory organ, comment.
 - Differentiate between Endotherms and ectotherms.
 - How is Osmoregulation done in Hypotonic and Hypertonic environment?
 - What is difference between tetanus and muscle tetany?
 - What is the role of ATP in muscle fatigue?
 - How is Turgor pressure generated?
 - Define diplohaplontic life cycle.
 - What is the role of non-disjunction in diploid parthenogenesis?
 - Write the names of four major ecosystems on land in Pakistan.
 - Differentiate between phytoplanktons and zooplanktons.
 - What do you know about hydroelectric power?
 - Mention any four ways in which we can save energy.
3. Write short answers of any eight parts from the following: (8x2=16)
- Why birth control pills contain progesterone?
 - How pancreas help humans as an endocrine gland?
 - Why iodine is added into the table salt?
 - How protanopia, deuteranopia and tritanopia are differentiated?
 - What is pleiotropy? Give two examples.
 - Define epistasis and how it is confused with dominance?
 - How genetic engineers produce a salt tolerant plant Arabidopsis?
 - What are transgenic plants?
 - How cancer is treated through gene therapy?
 - How certain fungi are crucial for higher plants in acidic soils?
 - Describe the role played by bacteria in nitrogen cycle.
 - How food web is more stable than food chain?
4. Write short answers of any six parts from the following: (6x2=12)
- Highlight the role of morphogenetic determinant during development of an individual.
 - What is discoidal cleavage?
 - Differentiate between sense strand and antisense strand of DNA.
 - How mRNA in eukaryotic cell remain protected from nucleases and phosphatases?
 - Where codon and anticodon are situated?
 - Differentiate between necrosis and apoptosis.
 - How cytokinesis occurs in plants?
 - What are endangered species? Give two examples from Pakistan.
 - What are Hydrothermal vents?

SECTION-II

- Note** Attempt any three questions. Each question carries equal marks: (8x3=24)
- Describe thermal regulatory strategies in mammals including humans in cold temperature. 4
 - Define Meiosis? Explain Meiotic -- 1st, with diagram. 4
 - Explain appendicular skeleton of mammals. 4
 - Describe nitrogen cycle. 4
 - Describe how a controlling mechanism is itself controlled by products of a reaction by giving an example? 4
 - Describe different factors which effect the gene frequency of a population. 4
 - What are placenta, write the functions of placenta during pregnancy. 4
 - Define Mendel's law of segregation. Explain it with an example. 4
 - Highlight the role of external environmental factors in controlling the growth in plants. 4