

BIOLOGY (Subjective) GROUP - II

Time: 02:40 Hours Marks: 68

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

16

- (i) How are xerophytes adapted to survive in dry environment?
- (ii) What are the structural differences between protonephridium and metanephridium?
- (iii) Describe the procedure adopted to remove kidney stones.
- (iv) Differentiate between heartwood and sapwood.
- (v) What is sciatica?
- (vi) What do you know about antagonistic arrangements of muscles?
- (vii) What is the location and function of Sertoli cells in male reproductive system of man?
- (viii) Describe the process of generation of labour pain in human females.
- (ix) What do you know about deserts of Pakistan?
- (x) Describe profundal zone in fresh water lakes.
- (xi) What is algal bloom?
- (xii) Define soil and write its composition.

3. Write short answers to any EIGHT parts.

16

- (i) How nervous system of hydra differs from planaria? Give any two differences.
- (ii) Which part of hind brain controls body movements and maintains position of body?
- (iii) Write the effects of over secretion and under secretion of somatotropin hormone.
- (iv) What are multiple alleles?
- (v) What is meant by genic system?
- (vi) What are sex limited traits?
- (vii) What are restriction enzymes?
- (viii) What is the significance of Taq polymerase enzyme?
- (ix) What is gene pharming?
- (x) Differentiate between autecology and synecology.
- (xi) What is ammonification?
- (xii) What are decomposers? Give their significance in ecosystem.

4. Write short answers to any SIX parts.

12

- (i) Why morphogenetic determinants are essential in gene selection?
- (ii) Discuss concept of differentiation.
- (iii) Why CsCl₂ is used for ultracentrifugation?
- (iv) Discuss properties of DNA Polymerase-III
- (v) Discuss findings of Archibald Garrod in certain genetic diseases.
- (vi) Discuss importance of meiosis.
- (vii) What are events of cell death?
- (viii) What is artificial selection?
- (ix) What is difference between endangered species and threatened species?

SECTION - II Attempt any THREE questions. Each question carries 08 marks.

5. (a) Write a detailed note on excretion in earthworm with the help of diagram. 04
(b) Explain principle stages of nitrogen cycle. Draw nitrogen cycle as well. 04
6. (a) Justify the division of joints on the basis of their structure. 04
(b) How DNA encodes protein structure? Discuss with special reference to central Dogma of molecular biology. 04
7. (a) How insulin depresses blood glucose levels. Also discuss diabetes mellitus. 04
(b) Describe the importance of forests. 04
8. (a) Describe the events of menstrual cycle and explain its hormonal regulation. 04
(b) Discuss Rh-blood group system in man. 04
9. (a) Write a note on differentiation in plants. 04
(b) Discuss any two factors affecting gene frequency. 04