Intermediate Part Second

Roll No. _____

BIOLOGY (Subjective) GROUP - I

Time: 02:40 Hours Marks: 68

SECTION – I

2. **Write short answers to any EIGHT parts.** 16
   (i) How do terrestrial animals overcome the problem of evaporative water loss?
   (ii) Justify the statement, "Excretion of uric acid in some terrestrial animals is an adaptation to conserve water".
   (iii) Compare poikilotherms and homeotherms.
   (iv) Compare sapwood with heartwood.
   (v) Outline the mechanism by which intervertebral disc is herniated.
   (vi) Compare sarcolemma and sarcomere.
   (vii) How is pollen tube significant in the life histories of spermatophytes?
   (viii) Justify the role of fetus in initiating the process of birth in human females.
   (ix) Compare weather and climate.
   (x) What kind of soil conditions are found in grassland ecosystem?
   (xi) How is ozone layer depleted by CFCs?
   (xii) Write the causes of water pollution.
3. **Write short answers to any EIGHT parts.** 16
   (i) What is chlorosis? How is it caused?
   (ii) What are effectors? Quote an example.
   (iii) Elaborate action of nicotine on humans.
   (iv) Define epistasis. How does it differ from dominance?
   (v) Name four traits of garden pea studied by Gregor Mendel.
   (vi) Differentiate quantitative trait with polygenic trait with examples.
   (vii) What are restriction enzymes? Who first isolated them?
   (viii) How taq polymerase act as a thermocycler?
   (ix) What is cell suspension? Quote an example.
   (x) What are lichens? How are they important?
   (xi) Differentiate between biosphere and niche.
   (xii) Write the significance of root nodules in plants.
4. **Write short answers to any SIX parts.** 12
   (i) Differentiate between determinate and indeterminate growth.
   (ii) Write the importance of red and blue light in growth.
   (iii) Write the structural formula of a dinucleotide.
   (iv) Write the factor causing alkaptonuria.
   (v) Give the role of aminoacyl-tRNA synthetase.
   (vi) Write the events of telophase in animal cell.
   (vii) Give the importance of Meiosis.
   (viii) Give the importance of sedimentary rocks regarding fossil formation.
   (ix) Define Hardy-Weinberg Theorem.

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

5. (a) Define and explain the process of dialysis. 04
   (b) Define non-disjunction and explain Down's syndrome. 04
6. (a) Why bones break and also explain the repair process of a simple bone fracture? 04
   (b) Give a detailed account of food chain and food web with its trophic levels. 04
7. (a) Discuss working of sensory receptors with special reference to skin. 04
   (b) What are endangered species? What measure could be adopted for their preservation? 04
8. (a) Describe female reproductive cycle in detail. 04
   (b) What are sex-chromosomes? Discuss the chromosomal patterns of sex-determination in organisms. 04
9. (a) Explain the mechanism of gastrulation during embryonic development in chick. 04
   (b) Explain the techniques of micro-injection and vortex-mixing to produce a transgenic animal. 04