



BIO - BOTANY

NOTE: USE SEPARATE PAPER FOR BOTANY AND ZOOLOGY

I. Choose the correct answer

[5 × 1 = 5]

1. In Gymnosperms, the activity of sieve cells are controlled by
 - a. Nearby sieve tube members.
 - b. Phloem parenchyma cells
 - c. Nucleus of companion cells.
 - d. Nucleus of albuminous cells.
2. Grafting is successful in dicots but not in monocots because the dicots have
 - a. Vascular bundles arranged in a ring
 - b. Cambium for secondary growth
 - c. Vessels with elements arranged end to end
 - d. Cork cambium
3. Usually, the monocotyledons do not increase their girth, because
 - a. They possess actively dividing cambium
 - b. They do not possess actively dividing cambium
 - c. Ceases activity of cambium
 - d. All are correct
4. The common bottle cork is a product of
 - a. Phellem
 - b. Phellogen
 - c. Xylem
 - d. Vascular cambium
5. What type of transpiration is possible in the xerophyte Opuntia?
 - a. Stomatal
 - b. Lenticular
 - c. Cuticular
 - d. All the above

II. Answer any 5 of the following questions:

[5 × 2 = 10]

6. Define tissue. Mention the types.
7. What are the functions of epidermal tissue system?
8. What are trichoblasts?
9. What are inter fascicular and intra fascicular cambium?
10. What is dendrochronology?
11. What is Imbibition?
12. What is DPD?

III. Answer any 2 of the following questions:

[2 × 5 = 10]

13. Give an account of vascular tissue system?
14. Write a short note on periderm.
15. Explain the theory of potassium transport in stomatal transport.

BIO - ZOOLOGY

I. Choose the correct answer

[5 × 1 = 5]

1. The end product of Ornithine cycle is
 - a) Carbon dioxide
 - b) uric acid
 - c) urea
 - d) ammonia
2. Podocytes are the cells present on the
 - a) Outer wall of Bowman's capsule
 - b) Inner wall of Bowman's capsule
 - c) Neck of nephron
 - d) Wall glomerular capillaries
3. Glomerular filtrate contains
 - a) Blood without blood cells and proteins
 - b) Plasma without sugar
 - c) Blood with proteins but without cells
 - d) Blood without urea
4. Muscles are derived from
 - a) ectoderm
 - b) mesoderm
 - c) endoderm
 - d) neuro ectoderm
5. Skeletal muscles are attached to the bones by
 - a) tendon
 - b) ligament
 - c) pectin
 - d) fibrin

II. Answer any 5 of the following questions:

[5 × 2 = 10]

6. How is urea formed in the human body?
7. Differentiate cortical from medullary nephrons.
8. Name the three main hormones that are involved in the regulation of the renal function?
9. Name the contractile proteins present in the skeletal muscle.
10. Which is the only jointless bone in human body?
11. How does an isometric contraction take place?

III. Answer any 2 of the following questions:

[2 × 5 = 10]

12. How are the kidneys involved in controlling blood volume? How is the volume of blood in the body related to arterial pressure?
13. Explain the sliding- filament theory of muscle contraction.
14. Explain the structure of kidney.