

AS/2051

**C4 – PLANT ANATOMY AND PHYSIOLOGY**

**PAPER CODE: BHB7**

952/MH

**B. Sc. (Hons.) Biotechnology Semester – 2<sup>nd</sup>**

**Time Allowed: 3 Hours**

**Max. Marks: 74**

**Section – A**

**Do any TWO**

1. Discuss in details root apical meristem organization in vascular plants.
2. Differentiate between primary and secondary structure of shoot and root.
3. Explain mechanism of transport of water and mineral nutrients in plants.
4. Discuss in detail deficiency and toxic symptoms of all eight micro-nutrients in plants.

**2 x 11 = 22**

**Section – B**

**Do any TWO**

1. Explain photo-chemical phase of photosynthesis in angiosperm plants.
2. Discuss in detail different types of nitrogen fixation in soil and plants.
3. Discuss the physiological roles and mode of action of Abscisic acid, ethylene and auxins.
4. Elucidate photophosphorylation in plants and the structure of organelle where it takes place.

**2 x 11 = 22**

**Section – C**

**All questions compulsory**

1. What are complex tissues? Give one example of each.
2. Define growth rings and how they form?
3. Which tissue is responsible for secondary growth and why it is an abnormal character in angiosperms?
4. Define plasmolysis and its importance in plants.
5. Give physiological role of gibberellins.
6. Write note on ammonium assimilation in plants and its importance for plant growth.
7. Discuss briefly about the concept of photoperiodism.
8. Explain briefly the biochemistry of seed germination cereal seeds.
9. How auxins are involved in cell elongation?
10. Define Red-drop effect.
11. What are photosynthetic pigments and their arrangement in thylakoids?
12. Give two deficiency and toxic symptoms of calcium and sodium.
13. Write note on plant tissues.
14. Differentiate anatomical C<sub>3</sub> and CAM plants.
15. Define compensation point.

**15 x 2 = 30**