SET-B

Plant Physiology and Metabolism/III Sem

(BHGE5)

Generic Elective

Unique Paper Code: 32165301

Time: 3 + 1 hrs **Max. Marks: 75**

(Write Your University Roll No and Paper Title and Code on top of the Answer Sheets)

Attempt *FOUR* questions in all.

All questions carry equal marks (18.75)

Q1. Comments upon 'Transpiration is a necessary evil'. What does girdling experiment demonstrate? Discuss the most widely accepted theory to explain the ascent of sap in plants.

Q 2. What imparts pink color to the nodule and what is its significance to nitrogen fixation? Also describe the process of nodulation in legumes.

Q 3. Discuss the criteria of essentiality of elements. Explain the role of carriers, channels and pumps in the transport of ions across membrane.

Q 4. State the physiological and biochemical changes associated with fruit ripening. Give commercial applications of auxins, gibberellins and ethylene and explain the role of the dark period in photoperidism.

Q 5. Give detail account on how ATP and NADPH+H molecules are synthesized in light dependent phase? Explain how these molecules are consumed to reduce atmospheric CO_2 in light independent phase?

Q 6. Distinguish between the lock and key and induced-fit models for binding of a substrate to an enzyme. What is Km and its significance? Explain competitive and non-competitive enzyme inhibitions and their effect on Vmax and Km values.