



**MBT-003-1144002-N** Seat No. \_\_\_\_\_

**M. Sc. (Botany) (Sem. IV) (CBCS)**

**(W.E.F. 2016) Examination**

**April / May - 2018**

**BOT - 420 : Plant Physiology & Metabolism**

**Faculty Code : 003**

**Subject Code : 1144002**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- 1** Answer the following : (any **seven**) **7×2=14**
- (a) What is photolysis of water' ?
  - (b) What is kranz anatomy ?
  - (c) Write the differences between C3 and C4 Plants.
  - (d) What is abscission? Give its significance.
  - (e) What is osmosis and osmotic pressure ?
  - (f) What are the external and internal factors affecting rate of transpiration ?
  - (g) Define photomorphogenesis.
  - (h) Distinguish between hormones and plant growth regulators.
  - (i) What is apical dominance ?
  - (j) Write physiological role of ethylene.
- 2** Answer the following : (any **two**) **2×7=14**
- (a) Explain factors responsible for flower initiation.
  - (b) Write note on vernalization.
  - (c) Describe various techniques used for dormancy breaking in embryo.
- 3** Answer the following : **2×7=14**
- (a) Describe physiological role and deficiency symptoms of any 5 macro nutrient.
  - (b) Explain passive and active mechanism of mineral absorption.

**OR**

- 3** Answer the following : **2×7=14**
- (a) What is drought stress? Describe water deficit on growth and metabolism of plants.
  - (b) Write short note on transpiration.
- 4** Answer the following : **2×7=14**
- (a) Explain Calvin cycle.
  - (b) Describe light reaction of photosynthesis.
- 5** Write the short on any **two** of the following : **2×7=14**
- (a) Physiological functions of Kinetin
  - (b) Bioassay for GA
  - (c) Auxin transport in cell
  - (d) Abscisic acid.
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