



**DN-003-1144002**

Seat No. \_\_\_\_\_

**M. Sc. (Botany) (Sem. IV) (CBCS) (W.E.F. 2016)**

**Examination**

**March/April – 2022**

**BOT-420 : Plant Physiology and 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 Emerson effect?
- (b) What is photolysis of water?
- (c) Distinguish between hormones and plant growth regulators.
- (d) What is apical dominance?
- (e) Define viability and abscission.
- (f) Write the role of pigments in photosynthesis.
- (g) How free hormones and conjugated hormones function in the plant cell?
- (h) What are the external and internal factors affecting the rate of transpiration?
- (i) Enlist the macro nutrients and write its role.
- (j) What are the stages of plant growth?

**2 Answer the following : (Any Two) 2×7=14**

- (a) Explain in detail seed and bud dormancy.
- (b) Briefly describe plant growth process.
- (c) What is vernalization? Explain in detail.

**3** Answer the following : **2×7=14**

- (a) Describe physiological role and deficiency symptoms of any 5 micro nutrients.
- (b) Give a brief account of translocation phenomena.

**OR**

**3** Answer the following : **2×7=14**

- (a) Different types of transpiration.
- (b) Describe the light reaction of photosynthesis.

**4** Answer the following : **2×7=14**

- (a) Write the short note on CAM pathway.
- (b) Explain Calvin cycle.

**5** Write short note on any **two** of the following : **2×7=14**

- (a) Physiological functions of auxin
- (b) Bioassay for GA
- (c) Ethylene
- (d) Photorespiration process

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