



PS-003-1144002

Seat No. _____

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

August - 2020

BOT - 420 : Plant Physiology and Metabolism
(New Course)

Faculty Code : 003

Subject Code : 1144002

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

[Total Marks : 70

Instruction : All questions are to be attended as per information

1 Answer the following : (Any Seven) 14

- (a) What is Diffusion Pressure Deficit (DPD)?
- (b) What are the external factors affecting the rate of transpiration?
- (c) Write a note on classification of stomata
- (d) What is morphogenesis?
- (e) Explain dormancy breaking treatments for seeds.
- (f) Give difference between limited and unlimited growth?
- (g) What is active transport?
- (h) What is plasmolysis?
- (i) Distinguish the term uniport, symport and antiport.
- (j) What is kranz anatomy?

2 Answer the following : (Any Two) 14

- (a) Explain molecular mechanism regulating seed dormancy in plants.
- (b) Write a short note on source-sink relationship.
- (c) Write a short note on CAM pathway.

- 3** Answer the following : (Compulsory Questions) **14**
(a) Write a short note on floral organ specification.
(b) Explain pathway regulating vernalization process in plants.

OR

- 3** Answer the following : (Compulsory Questions) **14**
(a) Write the Z scheme of the light reaction.
(b) Give a brief account of translocation phenomena.
- 4** Answer the following : **14**
(a) What is senescence? Explain in detail.
(b) Describe physiological role and deficiency symptoms of any 5 macro nutrients
- 5** Answer the following : (Any **Two**) **14**
(a) What is abscission? Explain in detail.
(b) What is Active-Y System of Sex Determination?
(c) Write the differences between C3 cycles and C4 cycle.
(d) Describe the Photorespiration process.
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