



NBV-003-014402 Seat No. _____

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

April / May - 2017

Botany : B - 420

(Plant Physiology & Metabolism)

Faculty Code : 003

Subject Code : 014402

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

[Total Marks : 70

Instructions : All questions are compulsory. Support your answers with suitable illustrations where required.

1 Answer any **seven** out of the following 10 Questions **7×2=14**
(2 Marks each) :

- (a) What is Turgor pressure? What is wall pressure?
- (b) What are the internal factors affecting the rate of transpiration?
- (c) What is morphogenesis?
- (d) What is Kranz anatomy?
- (e) What are stomata? Add a note on its distribution on leaf.
- (f) Differentiate between PS I and PS II.
- (g) Antagonistic effect of phytohormones.
- (h) Describe physiological role and deficiency symptoms of any 5 micro nutrients.
- (i) What is Photolysis?
- (j) Define abscission

2 Answer any two of the following : **7×2=14**

- (a) What is the difference between passive and active mechanism of mineral absorption?
- (b) What is drought stress? Describe water deficit on growth and metabolism of plants.

(c) What is water potential? Describe the relationship between components of water potential.

3 Answer the following : (7 marks each) **7×2=14**

(a) What is senescence? Explain in detail.

(b) Explain genetics of sexuality in monocieous plants.

OR

3 Answer the following : (7 marks each) **7×2=14**

(a) What is sex determination in plants? Explain.

(b) Explain Fixed sample size germination test.

4 Answer the following : (7 marks each) **7×2=14**

(a) Bioassay of ABA and Ethylene

(b) Mode of action Auxins

5 Answer any two of the following : (7 marks each) **7×2=14**

(a) Write the Z scheme of the light reaction.

(b) Describe the Photorespiration process.

(c) Explain C4 Cycle.

(d) Write the short note on CAM pathway.
