

Exam. Code : 107404

Subject Code : 2142

B.Sc. (Bio-Technology) 4th Semester

BOTANY—C

Paper—BT-2

Time Allowed—3 Hours]

[Maximum Marks—40

Note :— Attempt ALL the Sections.

SECTION—A

Note :— Attempt ALL the parts. Answer to any part should not exceed 1/3 of a page. $8 \times 1 = 8$

1. (a) What are osmolytes ?
- (b) What is stress physiology ?
- (c) Name the causal organism of black stem rust of wheat.
- (d) Define water potential.
- (e) Write down the causal organism of Early and late blight of potato.
- (f) What are dehydrins ?
- (g) Define epidemiology ?
- (h) Define plant pathology.

SECTION—B

Note :— Attempt any **FIVE** questions. Answer to any question should not exceed **2** pages. $5 \times 4 = 20$

1. Why transpiration is called necessary evil in plants ?
2. Briefly explain the classification of plant diseases.
3. Write a short note on downy mildew of Bajra.
4. Explain the role of different osmolytes in stress tolerance.
5. Give the role of late embryogenesis abundant proteins.
6. Briefly explain the components of water potentials.
7. Write a detailed account of disease cycle and control measures for TMV of potato.
8. Describe PR proteins.

SECTION—C

Note :— Attempt any **TWO** questions. Answer to any question should not exceed **5** pages. $2 \times 6 = 12$

1. Describe the molecular adaptations in plants with respect to salt and cold stress ?
2. Describe in detail the role of different osmolytes in stress tolerance.
3. Give a detailed account of early blight of potato disease including its causal agent, symptoms, disease cycle and its control measures.
4. Give a detailed account on disease resistance host pathogen interaction.