

Exam. Code : 107404

Subject Code : 1859

B.Sc. (Biotechnology) 4th Semester

BOTANY—C

Paper : BT-2

Time Allowed—Three 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.

1. Define osmosis.
2. What do you understand by water potential ?
3. Define heat shock proteins.
4. What are dehydrins ?
5. Define phytopathology.
6. What are the uses of practising crop rotation ?
7. Define blight.
8. Give the binomial name of the pathogen which causes bacterial blight of rice. 8×1=8

SECTION—B

Note :— Attempt any **FIVE** questions. Answer to any question should not exceed **2** pages.

1. Briefly describe the process of transpiration and its role in plants.
2. Write briefly on water relations.

3. Briefly explain the role of different osmolytes in stress tolerance.
4. Describe the importance of dehydrins.
5. Explain briefly the PR proteins.
6. What do you understand by phytoalexins ? Describe them briefly.
7. Describe the life cycle of the pathogen causing red rot of sugarcane.
8. Give the causal agents and draw the symptoms of late and early blight of potato. 5×4=20

SECTION—C

Note :— Attempt any **TWO** questions. Answer to any question should not exceed **5** pages.

1. Describe the various physiological and molecular adaptations made by plants in response to salt stress.
2. Write short notes on the following :
 - (a) Late embryogenesis abundant proteins
 - (b) Role of heat shock proteins.
3. With the help of examples, describe the various modes of transmission of plant diseases.
4. Give the causal agents, symptoms and control measures of the following diseases :
 - (a) Downy mildew of bajra
 - (b) Black stem rust of wheat
 - (c) Loose smut of wheat. 2×6=12