(d) Briefly discuss the mechanism of heat resistance in plants.

(e) Write the physiological changes due to drought in plants.

(f) Discuss the Jasmonic acid signaling.

Group - C

3. Answer any ***one*** of the following : 10×1=10

(a) What is saline stress? Write the different symptoms of salt stress. Discuss the strategies to tolerate high salt stress. 2+4+4

(b) Briefly discuss different developmental and physiological mechanisms that protect plants against environmental stress. 5+5

B.Sc./5th Sem (H)/BOTH/22(CBCS)

2022

5th Semester Examination

BOTANY (Honours)

Paper : DSE 2-T

[CBCS]

Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

[Plant Breeding]

Group - A

A. Answer any ***five*** questions from the following : 2×5=10

1. What is polyploidy? Write one use of it.
2. What is heterosis? How does it develope?
3. Why emasculation is done for hybridization?
4. What is polygenic inheritance?
5. What is amphidiploid? Give an example of amphidiploid viable crop.
6. What is plant domestication?
7. Define propagule with an example.
8. What is the cause of inbreeding depression?

P.T.O.

Group - B

B. Answer any *four* questions from the following : 5×4=20

1. Write short note on the Center of origin of crop plants. 2.5×2

2. Briefly describe the two breeding methods of cross-pollinated plants. 5

3. What is crop improvement? Write the role of mutation in crop improvement. 2+3

4. Briefly describe the domestication of crop plants with suitable example. 5

5. What is introgressive hybridization? Mention two points to differentiate pedigree method and progeny testing. 5

6. Compare pure line selection and mass selection. 5

Group - C

C. Answer any *one* question from the following : 10×1=10

1. Describe the role of biotechnology in crop improvement. 10

2. Define quantitative inheritance. Briefly describe the role of polygenic control in kernel colour of Wheat. Mention some undesirable consequences of plant breeding. 2+5+3

[Stress Biology]

Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

1. Answer any *five* of the following : 2×5=10

   (a) What do you mean by chilling injury?

   (b) What is acclimation?

   (c) What is calcium modulation?

   (d) What do you mean by osmotic adjustment?

   (e) What do you mean by scavenging mechanism?

   (f) What is systematic acquired resistance?

   (g) What do you mean by stress adaptation in plant?

   (h) What is reactive oxygen species?

Group - B

2. Answer any *four* of the following : 5×4=20

   (a) What are the different roles of PR Protein in an infected plant?

   (b) Write different symptoms of water stress.

   (c) Write different cytological changes in chilling injury.