2022

B. Sc. (Honours) in AGRICULTURE

3rd Semester Examination

Fundamentals of Plant Breeding

PAPER — AGS-302

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer from **all** the Groups as directed.

GROUP—A

1. Answer *any* **five** questions : 2×5=10

(a) What are homogeneous and heterogeneous populations?

(b) Explain the term heterosis.

(c) Briefly explain Hardy-Weinberg law.

(d) Define adventive embryony.

(e) What is gene pool? Write down the different types of gene pool.

(f) What is pure line selection?

(g) What do you mean by genetic drift?

(h) Define halophytes. Give an example of saline stress tolerance crop.

GROUP—B

2. Answer *any* **four** questions :

(a) What is allopolyploid? Explain the evaluation of bread wheat. 1+4=5

(b) Briefly describe about Gama garden and its importance. 3+2=5

(c) What is heterosis? Write down the dominance hypothesis of heterosis. 1+4=5

(d) What is multiline concept? 5

(e) Define mutation. Write down the different types of mutagen with suitable examples. 1+4=5

(f) What is clone? Describe the procedure of clonal selection. 1+4=5

GROUP—C

3. Answer *any* **two** questions :

(a) What is male sterility? List the different types of male sterility found in plants. Describe any two. 2+8=10

(b) Describe shortly about the biotechnological tools used in plant breeding. 10

(c) Define plant breeding. Write down the different objectives of plant breeding. 2+8=10

(d) What is back cross? Explain the method of dominant gene transfer through back cross breeding with suitable diagram. 1+9=10

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