

**2022**

**B. Sc. (Honours) in AGRICULTURE**

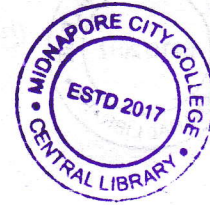
**3rd Semester Examination**

**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.

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( Turn Over )



( 2 )

- ✓(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 Gamma 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

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(Continued)

( 3 )

**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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