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**M – 7155**

**Reg. No. : .....**

**Name : .....**

**Third Semester M.Sc. Degree Examination, March 2022**

**Botany**

**BO 231 – PLANT BREEDING, HORTICULTURE AND BIOSTATISTICS**

**(2019 Admission Onwards)**

Time : 3 Hours

Max. Marks : 75

I. Answer the following questions.

1. What is inbreeding depression?
2. What is plant domestication?
3. What is emasculation? What is it done to?
4. What is plant introduction?
5. What are bio-fertilizers?
6. Describe vermicomposting.
7. What is arboriculture?
8. What is null hypothesis? Give one example.
9. What is quartile deviation?
10. Differentiate between qualitative data and quantitative data.

**(10 × 1 = 10 Marks)**

P.T.O.



II. Answer the following questions in not more than 50 words.

11. (a) Comment on male sterility and its significance in plant breeding.

OR

- (b) What is the main contribution of Nikolai Vavilov to plant breeding?

12. (a) What is acclimatization? Comment on the importance of acclimatization in plant introduction.

OR

- (b) Comment on plant breeder's rights act.

13. (a) Explain the construction and uses of green houses.

OR

- (b) What are orchards?

14. (a) What is topiary? Give the names of two plants suitable for topiaries.

OR

- (b) What are statistical significance tests? Give examples.

15. (a) Explain the purpose of having replications while designing scientific experiments.

OR

- (b) Differentiate between simple correlation and multiple correlation, citing suitable examples.

**(5 × 2 = 10 Marks)**

III. Answer the following questions in not more than **150** words.

16. (a) What is ideotype breeding? How is it different from traditional breeding methods?

OR

- (b) What is heterosis? How does heterosis manifested in plants? How is it exploited in plant improvement?



17. (a) Describe the methods of breeding used for the development of disease resistance in plants.

OR

- (b) What is clonal selection? Describe the steps involved in clonal selection.

18. (a) Write an account on various garden tools and its uses.

OR

- (b) Write a brief account on landscape gardening.

19. (a) Comment on vertical gardening and its benefits. List a few plants suitable for vertical gardening.

OR

- (b) Explain the horticultural practices namely thinning, training, and pruning.

20. (a) Explain the steps involved in the preparation of Bonsai.

OR

- (b) Write an account on how to grow and take care of indoor plants.

21. (a) Define standard deviation.

OR

- (b) Explain the multiplication theorem in probability.

22. (a) How do we interpret the calculated value of Chi-square?

OR

- (b) What is t-test? What are the applications of it?

**(7 × 5 = 35 Marks)**



IV. Answer the following questions in not more than **250** words.

23. (a) What is hybridization? Describe the procedure and applications of hybridization.

OR

- (b) Write an essay describing the various aspects of mutation breeding, including its advantages and disadvantages. Add a note on the achievements made by mutation breeding in India.

24. (a) Describe the different methods of natural and artificial methods of plant propagation.

OR

- (b) Explain how the measures of central tendency makes it possible to represent the data with a single central value with reference to the three main measures of central tendency you have studied.

**(2 × 10 = 20 Marks)**

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