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P – 6091

Reg. No. :

Name :

Third Semester M.Sc. Degree Examination, January 2023

Botany

BO 231 : PLANT BREEDING, HORTICULTURE AND BIOSTATISTICS

(2019 Admission Onwards)

Time : Three Hours

Max. Marks : 75

- I. Answer the following questions.
1. What is green super rice?
 2. What are the functions of ICAR-NBPGR?
 3. Give the importance of floral biology in plant breeding.
 4. How do you develop a synthetic variety?
 5. Where can you find gene-for-gene relationships?
 6. Describe the significance of biodiversity policy.
 7. What is Olericulture?
 8. Describe the advantages of in door garden.
 9. What is Students's t-test?
 10. Explain Ogive graph.

(10 × 1 = 10 Marks)

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

11. (a) Explain hybridization and mention its procedure.

OR

- (b) Write short notes on the concept of centers of origin proposed by Vavilov.

12. (a) Describe cytoplasmic male sterility and its uses.

OR

- (b) Explain the role of interspecific and intergeneric hybridization.

13. (a) What is seed certification? How is it done?

OR

- (b) Describe split-plot design.

14. (a) Give a short account on organic fertilisers.

OR

- (b) What is garden design and who does it?

15. (a) Describe briefly regression analysis.

OR

- (b) Compare broad sense heritability and narrow sense heritability.

(5 × 2 = 10 Marks)

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

16. (a) Compare the back cross and multiple cross methods of hybridization of self-fertilized crops.

OR

- (b) Distinguish between mass selection and pureline selection.



17. (a) Describe primary, secondary and microcenters of genetic diversity.

OR

- (b) Explain the salient features of heterosis. Add notes on heterobeltiosis.

18. (a) Compare pedigree and bulk methods of breeding. Mention their merits and demerits.

OR

- (b) Describe chromosome manipulation techniques used in plant breeding and its significance.

19. (a) Write notes on mutation breeding and its applications.

OR

- (b) Distinguish between single-gene resistance and many-gene resistance.

20. (a) Give an account of floriculture and floral industry.

OR

- (b) Describe the common types of vegetative propagation techniques used in plants.

21. (a) Discuss on the types of green houses and the equipments used in it.

OR

- (b) Describe various hand tools used in horticulture. Mention their uses.

22. (a) Give a general account of the measures of dispersion. Add notes on their coefficients.

OR

- (b) Give an account on chi square test and its applications.

(7 × 5 = 35 Marks)



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

23. (a) Give a detailed account of male sterility in crop plants.

OR

(b) Discuss on the types, methods, merits and demerits of selection as a breeding method.

24. (a) Describe the various post planting practices followed upto harvest.

OR

(b) Give a general account of probability distributions. Add notes on binomial and poisson distributions.

(2 × 10 = 20 Marks)

