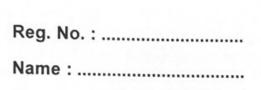
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Third Semester M.Sc. Degree Examination, January 2023 Botany

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?
- Describe the advantages of in door garden.
- 9. What is Students's t-test?
- 10. Explain Ogive graph.

 $(10 \times 1 = 10 \text{ Marks})$

- II. Answer the following questions in not more than 50 words.
- 11. (a) Explain hybridization and mention it's 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.

 $(5 \times 2 = 10 \text{ Marks})$

- III. Answer the following questions in not more than 150 words.
- (a) Compare the back cross and multiple cross methods of hybridization of self-fertilized crops.

OR

(b) Distinguish between mass selection and pureline selection.

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

OR

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

 $(7 \times 5 = 35 \text{ Marks})$

- 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.

 $(2 \times 10 = 20 \text{ Marks})$