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P – 6094

Reg. No. :

Name :

Third Semester M.Sc. Degree Examination, January 2023

Botany

BO 231 — PLANT BREEDING, HORTICULTURE AND REPRODUCTIVE BIOLOGY

(2013 – 2018 Admission)

Time : 3 Hours

Max. Marks : 75

Illustrate your answers wherever necessary

I. Define/Explain the following:

1. Transgressive variation
2. Agamic complex
3. Pureline
4. Heterobeltiosis
5. Apospory
6. Quarantine
7. Emasculation
8. Perisperm
9. ICAR-CPCRI
10. Zygotic sterility

(10 × 1 = 10 Marks)

P.T.O.



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

11. (a) Write a short note on Apomixis.

OR

(b) Explain idiotypic breeding and its various achievements.

12. (a) Explain autopolyploids with an example.

OR

(b) Give the salient features of plant breeders rights act.

13. (a) Differentiate between cytoplasmic and genetic sterility.

OR

(b) Explain the role of national Institutions in crop improvement programmes.

14. (a) What is the role of apiaries in crop improvement?

OR

(b) What are the factors influencing pollen viability and germination.

15. (a) What are centres of origins of plants?

OR

(b) Give the concept of origin of wheat.

(5 × 2 = 10 Marks)

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

16. (a) Explain the consequences of distant hybridization.

OR

(b) Describe the methods and procedures in seed production and certification.

17. (a) Describe the different types of male sterility.

OR

(b) Write a note on pollen-pistil interactions.



18. (a) Describe various Mutagens and their role in development of varieties.

OR

(b) What are the consequences of inbreeding?

19. (a) Describe androgenesis and gynogenesis.

OR

(b) Give a detailed note on the barriers to fertilization.

20. (a) What are the different types of layering?

OR

(b) Write a detailed note on the common horticultural practices.

21. (a) Elaborate the principles of Arboriculture.

OR

(b) Give the salient features of artificial and controlled plant growing structures.

22. (a) What is polyembryony?

OR

(b) Give the economic importance of pollen and role of apiaries in crop improvement.

(7 × 5 = 35 Marks)

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

23. (a) Explain the different selection methods employed in plant breeding, in a comparative manner.

OR

(b) Explain the principles and methodology of resistance breeding.

24. (a) Explain the process of megasporogenesis, with suitable diagrams.

OR

(b) Describe the development process of a dicot and monocot embryo.

(2 × 10 = 20 Marks)

