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Reg. No. : .....

Name : .....

Third Semester M.Sc. Degree Examination, February 2021

Botany

**BO 233 : RESEARCH METHODOLOGY, BIOSTATISTICS AND PLANT  
BIOTECHNOLOGY**

**(2013–2018 Admission)**

Time : 3 Hours

Max. Marks : 75

Illustrate your answer **wherever** necessary.

I. Answer the following questions:

1. h-index
2. Ogive
3. Broad sense heritability
4. Bioterrorism
5. Genetic chimerism
6. Artificial seeds
7. Patent
8. Dihaploid
9. GM crops
10. Expression vector

**(10 × 1 = 10 Marks)**

P.T.O.



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

11. (a) Compare null and alternative hypotheses.

OR

(b) What are abstracting services?

12. (a) Why is random sampling the best method?

OR

(b) What is median and its formula?

13. (a) What do you mean by gene targeting?

OR

(b) Compare white biotechnology and blue biotechnology.

14. (a) Write short notes on expressed sequence tags.

OR

(b) Give a brief account on somaclonal variation.

15. (a) Write short notes on cell immobilization.

OR

(b) What is restriction mapping?

**(5 × 2 = 10 Marks)**

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

16. (a) Give an account of various sources of literature.

OR

(b) Describe the different steps involved in thesis writing.

17. (a) Explain the addition, multiplication, and complement rules of probability.

OR

(b) Compare the correlation and regression analyses.



18. (a) Distinguish between the different experimental designs.

OR

(b) Give an account of various commonly used tests of significance.

19. (a) Compare and contrast the features of androgenesis and gynogenesis.

OR

(b) Discuss the methodology and importance of polyploidy breeding.

20. (a) Explain the similarities and differences of the techniques of RFLP and AFLP.

OR

(b) Give an account on somatic hybridisation. Mention its impact on agriculture.

21. (a) Discuss germplasm conservation strategies and international exchange of germplasm.

OR

(b) Describe the antisense technology and mention its relevance.

22. (a) Give an account on PCR and its variants.

OR

(b) Discuss the salient features of site directed mutagenesis.

**(7 × 5 = 35 Marks)**



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

23. (a) Describe the different aspects involved in the formulation of a research project.

OR

- (b) Discuss various measures of dispersion. Which is the best measure of dispersion and why?

24. (a) Write an essay on the various techniques used for transgenesis in plants.

OR

- (b) Discuss on the different types of plant tissue culture techniques and various media used.

**(2 × 10 = 20 Marks)**

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