

Register Number:

Date & Session:

**ST JOSEPH’S UNIVERSITY, BENGALURU-27**

**M.Sc. BOTANY – 4th SEMESTER**

**SEMESTER EXMINATION: APRIL 2024**

**(Examination conducted in May/June 2024)**

**B0323: Plant Breeding and Plant Propagation**

(For current batch students only)

**Time: 2 Hours Max. Marks: 50**

This question paper contains TWO printed page and THREE parts

Draw diagrams and write examples wherever necessary

**A. Define/explain any FIVE of the following in 2-3 sentences: 5x2=10**

1. Biochemical markers
2. Apomixis
3. Breeders seed
4. What is Perlite?
5. What are aromatic plants?
6. Differentiate between cut flowers and loose flowers?
7. Is it possible to propagate plants in natural and artificial way? If yes, list any two methods with suitable examples.

**B. Answer any FIVE of the following: 5x6=30**

1. Discuss auto-immune response in *Arabidopsis*
2. Discuss and three barriers in distant hybridization and methods to overcome the same
3. Explain how markers can be used in disease resistance
4. Role of Global and national organizations in crop improvement
5. Describe any four implements and tools used in plant propagation.
6. Describe physiological disorders in Carnation.
7. Write a brief note on green house and its significance in plant breeding and propagation?

**PTO**

**C. Answer any ONE of the following: 1x10=10**

1. Read the below excerpt and discuss the concept.

“…. enables breeders to transfer a desired trait such as a transgene from one variety (donor parent, DP) into the favored genetic background of another (recurrent parent, RP). If the trait of interest is produced by a dominant gene, this process involves four rounds of …… within seven seasons. If the gene is recessive, this process requires more generations of selfing and thus nine or more seasons are needed. The rate at which the DP genes are removed and the RP genes are recovered in the genetic makeup of the plant can be calculated using the number of backcross generations utilized. This rate is dramatically increased with the recent advances in marker technology which allow breeders to control the gene of interest and control the genetic background.

 Source : DOI: [10.1007/978-1-59745-494-0\_14](https://doi.org/10.1007/978-1-59745-494-0_14)

16. Give a comprehensive account on cultivation, harvest and marketing of grapes