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Register Number:

Date:

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27**

**B.Sc. BOTANY – VI SEMESTER**

**SEMESTER EXAMINATION - APRIL 2022**

**(Examination conducted in July 2022)**

**BO 6215 - Cytology, Genetics, Plant Breeding and Propagation**

Time- 2 ½ hrs Max Marks-70

**This paper contains ONE printed page and THREE parts**

**Draw diagrams and write examples where necessary**

1. **Answer any TEN of the following in two or three sentences 10 × 2 = 20**
2. Test cross and its significance
3. State Mendel’s law based on the dihybrid cross
4. Mention the purpose of having plant quarantine laws
5. Differentiate between heterochromatin and euchromatin
6. Paracentric and pericentric inversions
7. Pureline selection
8. Define euploidy. What is the aneuploid condition of 2n +1 called?
9. Histone octamer
10. Epistatic and hypostatic gene
11. Acrocentric chromosome and Telocentric chromosome
12. Petite yeast
13. State any 2 differences between qualitative and quantitative traits
14. **Write critical notes on any FIVE of the following 5 × 6 = 30**
15. Heterosis and its significance
16. Polytene chromosome
17. Mechanism of crossing over and its significance
18. Plastid inheritance in *Mirabilis jalapa*
19. Methods of hybridization
20. Polymeric gene interaction
21. Objectives of plant breeding
22. **Give a comprehensive account of any TWO of the following 2 × 10 = 20**
23. Differentiate between layering and grafting. Explain any 2 methods of each.
24. Enumerate the role of translocations as a chromosomal aberration and state its evolutionary significance
25. Construct a genetic map of Maize using a three-point test cross

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