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

**M. Sc. BOTANY- IV SEMESTER**

**SEMESTER EXAMINATION- APRIL 2023**

**(Examination conducted in May 2023)**

**BO 0121- CYTOLOGY, GENETICS AND MOLECULAR BIOLOGY**

**Time- 21/2 hrs Max. Marks: 70**

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

Draw diagrams wherever necessary with examples

1. **Define/ Explain any TEN of the following in two or three sentences 2X10= 20**
2. Template independent RNA polymerase
3. Conservative replication
4. RNA polymerases in Eukaryotes
5. Transversion and Transition mutation
6. hnRNA
7. Phragmoplast
8. Gene pool
9. Nucleolar organizer
10. Lysosomal enzymes
11. Lethal genes
12. Hardy Weinberg Equillibrium
13. Cot- curve
14. **Write critical notes on any FIVE of the following 6X5=30**
15. Dominant Epistasis
16. Structure and function of endoplasmic reticulum
17. End replication problem and telomerase
18. Transport and localization of protein to mitochondrial matrix
19. Genetic code: discovery and characteristic features
20. Tryptophan operon and its regulation
21. Regulation of cell cycle
22. **Give a comprehensive account of any TWO of the following 10X2=20**

1. Centromere kinetochore complex
2. Post transcriptional modifications of RNA in eukaryotes
3. Mechanism of Translation in prokaryotes

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