



21000524

**QP CODE: 21000524**

**Reg No** : .....

**Name** : .....

**M Sc DEGREE (CSS) EXAMINATION, MARCH 2021**

**Third Semester**

Faculty of Science

M Sc BOTANY

**CORE - BY010302 - BIOTECHNOLOGY, BIOINFORMATICS AND  
BIONANOTECHNOLOGY**

2019 Admission Onwards

9F6A38D5

Time: 3 Hours

Weightage: 30

**Part A (Short Answer Questions)**

*Answer any **eight** questions.*

*Weight 1 each.*

1. Name any 2 antibiotics produced by bacteria
2. What is the importance of suspension culture?
3. Define auxin-cytokinin ratio
4. Why T4 DNA ligase is preferred over other ligases?
5. What is the role of vir C in agrobacterium mediated gene transfer?
6. What is FISH?
7. Briefly explain Transcriptomics.
8. What is a substitution matrix?
9. Discuss the significance of Molecular phylogeny
10. Discuss about the translocation and accumulation of Nanoparticles in plant tissues and organs





(8×1=8 weightage)

**Part B (Short Essay/Problems)**

*Answer any **six** questions.*

*Weight 2 each.*

11. Explain fed batch fermentation. How can we convert a batch fermentation into fed batch fermentation
12. How will you sterilise the explants used in tissue culture
13. Explain different methods of DNA isolation from cells
14. Explain methods of gene knock out in mice
15. Explain cDNA synthesis.
16. Write a critical note on patenting living organisms and genes.
17. Comment on PubMed and its use in literature survey
18. Discuss the methods of biological synthesis of Zinc Nanoparticles using plant extract

(6×2=12 weightage)

**Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight 5 each.*

19. Explain various types of bioreactors used in industrial fermentation
20. Explain various physical methods of gene transfer
21. Describe different methods of genome editing.
22. Elaborate on protein structure prediction by citing suitable modelling methods

(2×5=10 weightage)

