



25047402

QP CODE: 25047402

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, NOVEMBER 2025

Third Semester

M Sc MOLECULAR BIOLOGY AND GENETIC ENGINEERING

Core Course - BS030302 - TRANSGENICS-ANIMALS AND PLANTS

2019 ADMISSION ONWARDS

D69BD356

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. How is a transgene selected?
2. Explain knock out mice.
3. How can stem cell biology enrich transgenics?
4. What are the factors affecting the invitro culture of plants?
5. What you mean by osmoticum? give some examples.
6. Write a short note on artificial seeds.
7. Define elicitors. Point out different types of elicitors.
8. Define gene construct in transgenic plants.
9. Electroporation. Explain.
10. Briefly explain about plantibodies.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain gene transfection in cultured mammalian cells using physical methods?
12. Illustrate xenografting with a suitable example.
13. How will you perform enzymatic tissue disaggregation in animal cell culture?





14. Callus formation takes place under the influence of exogenously supplied growth regulators. Explain about the growth regulator requirement.
15. Write a short note on terpenes.
16. Explain about biotransformation. Its advantages and limitations.
17. Write short notes on different types of reporter genes.
18. Briefly explain the production of hirudin through oleosin partition technology.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain the steps involved in gene cloning.
20. Give an account on Gibberellin biosynthetic pathway and its physiological roles. Analyse the role of gibberellin in seed germination.
21. What is disarming of a Ti plasmid? Explain the organization and gene transfer using co integrate and binary vectors of pTi.
22. Briefly describe various strategies for producing herbicide resistant transgenic plants. Elaborate your response with selected successful examples.

(2×5=10 weightage)

