



QP CODE: 26019523



26019523

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, MARCH 2026

Fourth Semester

M Sc BIOTECHNOLOGY

ELECTIVE - BT850401 - MOLECULAR BIOLOGY OF DEVELOPMENT

2019 Admission Onwards

579DEB6D

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. What you mean by cell commitment?
2. Define cell lineage.
3. What is capacitation and recognition in fertilization?
4. What are the components of egg apparatus? Describe each component.
5. Compare the orientation of axes and pattern formation in chick.
6. Examine the summary of inductive interactions during eye development.
7. Comment the types of phyllotaxy in plants.
8. Interpret the impacts of B chromosome in plants.
9. Assess the principal changes in apoptotic cell death process.
10. Estimate the main classification of ageing.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Describe the role of determination in embryonic growth using model organism
12. Explain different types of cleavage and its significance with suitable examples.





13. Write a note on mechanism of seed formation
14. Explain the developmental process of organogenesis in animals.
15. Develop the layout of the gonads and their ducts in mammals.
16. Interpret the mechanisms involved in shoot and root developments in plants.
17. Design the layout of floral meristems and floral development in Arabidopsis.
18. Interpret the main features of apoptosome extrinsic and intrinsic pathways.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. What is genomic imprinting? Describe mechanism of imprinting with example . Discuss certain diseases caused by genomic imprinting.
20. Exemplify the metamorphic changes with functional activities in vertebrates.
21. Prioritize the stages of morphogenesis and organogenesis in plants.
22. Discuss the theories of ageing ,mitochondrial stress and senescence.

(2×5=10 weightage)

