

C 61891

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Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS—PG)

General Biotechnology

GB 4E 5—STEM CELL BIOLOGY

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Section A

Answer all questions, each with weightage 1.

1. Micro-environment.
2. Stem cells.
3. Totipotent.
4. Teratoma.
5. Neural stem cells.
6. Passage.
7. Germline cell.
8. Proliferation.
9. Clone.
10. Surface markers.

(10 × 1 = 10 weightage)

Section B

Answer any seven questions, each with weightage 2.

11. Explain Neurodegenerative diseases with example.
12. Methods of cryopreservation.
13. Explain Prohibited Areas of Research on Stem cells.
14. Explain the properties of Stem cell.
15. Transplantation of stem cells.

Turn over

16. Differentiate between embryonic stem cells and adult stem cells.
17. Blastocyst and inner cell mass as source of stem cells.
18. Explain cancer stem cells.
19. Explain Epithelial- Mesenchymal Transition.
20. Explain phases of Cell-Cycle.

(7 × 2 = 14 weightage)

Section C

*Answer any **two** questions, each with weightage 6.*

21. Explain Induced Pluripotent stem cells, significance of Yamanaka Factors and the significance in stem cell research.
22. Explain the significance of stem cell therapy in treatment of diseases.
23. Explain a stem cell and how stem cell is maintained and differentiated in the micro-environment.

(2 × 6 = 12 weightage)