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Name ·

Reg. No. ·

FOURTH SEMESTER M.Sc. (CUCSS) DEGREE EXAMINATION, JULY 2013

General Biotechnology

GB4E5 – STEM CELL BIOLOGY

Time : Three Hours

Maximum : 36 Weightage

Section A

Very short answer.

Answer all questions each with a weightage 1.

1. Pleuripotency
2. Contact inhibition
3. Primordial germ cells
4. Therapeutic cloning
5. N2 medium
6. Chondrocyte
7. Teratoma
8. Scaffold
9. Neural stemcells
10. Mouse embryo fibroblast.

(10 x 1 = 10 Weightage)

Section B

Short answer type questions.

Answer any seven questions, each with a weightage 2.

11. Discuss the preservation methods for stem cells.
12. What are the salient features of stem cells.
13. Discuss about stem cell therapy for neuro degenerative diseases.
14. Discuss the ethical aspects of human stem cell research.
15. Give an account on model organisms used for stem cell research.
16. Distinguish multipotent, pluripotent and totipotent cells with suitable example.
17. How can we cultivate embryonic stem cells in the laboratory.
18. What are the similarities and differences between embryonic and adult stem cells.
19. Discuss the current good manufacturing practices with respect to stem cell products.
20. Describe gene addition and genome editing approaches for stem cell gene therapy.

(7 x 2 = 14 Weightage)

Section C

Essay type questions.

Answer any two questions, each with a weightage 6.

21. Write an essay on current applications of stem cell therapy.
22. What are stem cells? Explain different types of stem cells and stem cell differentiation.
23. Discuss about ethical and religious perspectives of human stem cell research.

(2 x 6 = 12 Weightage)