

C 80149

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Name.....

Reg. No.....

SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

Biotechnology

BTY 6B 14—ANIMAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 80 Marks

Section A

Answer any two out of four questions in about 1,500 words.

Each question carries 10 marks.

1. Discuss various components in the animal cell culture media and specify its role.
2. Discuss different methods used for revival and maintenance of animal cell culture.
3. What is primary culture ? Explain different methods to develop primary culture.
- 4 Explain various methods used for characterization of cell lines.

(2 × 10 = 20 marks)

Section B

Answer any seven out of fourteen questions in about 750 words.

Each question carries 5 marks.

5. What is balanced salt solution? Discuss its role in animal cell culture.
6. Discuss the characteristics of normal and transformed cells.
7. Why CO₂ incubator and laminar air flow are two important equipments for animal cell culture ?
8. Discuss the features of SV-40, Papillomavirus and Epstein-Bar virus.
9. What is immortalization ? Explain the immortalization of cell line with viral genes.
10. Explain the MTT based cytotoxicity assay.
11. Describe any five products derived from animal cell culture and their application.
12. Explain the isolation and preparation of Chick embryo fibroblast culture.
13. Explain the steps involved in cryo-preservation of animal cells.
14. Explain warm and cold trypsin treatment methods .

Turn over

15. Give an account on preparation of stock solutions for animal cell culture media.
16. Explain cell proliferation assay.
17. What are growth factors ? Discuss the role of EGF and PDGF in animal cell proliferation.
18. Discuss the merits and demerits of serum in the medium.

(7 × 5 = 35 marks)

Section C

Answer all questions in about 300 words.

Each question carries 3 marks.

19. What is feeder layer ? Discuss the advantages of feeder layer and give one example.
20. Discuss how EB virus used for immortalization of cell lines.
21. What are the characteristics of secondary culture ?
22. Discuss freezing and thawing of cell.
23. Distinguish Cell strain and a cell line.

(5 × 3 = 15 marks)

Section D

Answer all questions in about 200 words.

Each question carries 2 marks.

24. Passaging number.
25. HeLa cells.
26. Pleuripotency.
27. Contact inhibition.
28. Mycoplasma.

(5 × 2 = 10 marks)