

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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M.Sc. 3rd Semester

1125

BIOTECHNOLOGY

Paper-MBIO-301 : Animal Cell Science and Technology

Time Allowed : Three Hours]

[Maximum Marks : 80

Note : Attempt five questions in all. Question No. 1 is compulsory.
Select one question from each Unit. All questions carry equal marks.

1. (a) What is the function of tubulin in animal cells ?
- (b) Why is inverted microscope used in an animal cell culture lab ?
- (c) What is culture feeding ?
- (d) What is the function of roller bottle in culture scale up ?
- (e) Name the methods for mechanical tissue disaggregation.
- (f) What are humanized antibodies ?
- (g) What are totipotent stem cells ?
- (h) Define transfection. 8×2

UNIT-I

2. (a) Discuss the structure, types and function of Endoplasmic reticulum. 8

- (b) Discuss the design and application of CO₂ incubator in ACC laboratory. 8
3. (a) Discuss the advantages of using serum in media. 8
- (b) Describe the survival and microtitration assays for cytotoxicity testing. 8

UNIT-II

4. (a) Discuss the different methods of trypsinization for tissue disaggregation. 8
- (b) Explain the different methods for scale up of a suspension culture. 8
5. (a) Describe the applications of stem cells in tissue engineering. 8
- (b) Discuss the mechanism of monoclonal antibody production. 8

UNIT-III

6. (a) Describe the characteristics of a transformed cell line. 6
- (b) Discuss the different methods of transgenesis. 10
7. (a) Explain the role of baculovirus in improvement of silkworm strain. 8
- (b) Describe the role of Biotechnology in improving the aquacultural practices. 8

UNIT-IV

8. (a) Discuss the techniques of GIFT, ZIFT and ICSI for IVF improvement. 8
- (b) Explain the method of reproductive and therapeutic cloning. 8
9. (a) Discuss the different hormonal interventions required for IVF. 6
- (b) Discuss the role of Biotechnology in conserving Biodiversity. 10

Note: Attempt five questions in all. Question No. 1 is compulsory. Select one question from each Unit. All questions carry equal marks.

- (a) What is the function of tubulin in animal cells?
- (b) Why is inverted microscope used in an animal cell culture lab?
- (c) What is culture feeding?
- (d) What is the function of roller bottle in culture scale up?
- (e) Name the methods for mechanical tissue disaggregation.
- (f) What are humanized antibodies?
- (g) What are totipotent stem cells?
- (h) Explain parameters.

UNIT-4

- (a) Discuss the structure, types and function of Endoplasmic reticulum. 8