

2122

M.Sc. (Biotechnology), Third Semester  
MBIO-301: Animal Cell Science and Technology

Time allowed: 3 Hours

Max. Marks: 80

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) What is a primary culture? .
- b) What is a microcarrier culture?
- c) What are chimeric antibodies?
- d) What is transfection?
- e) What is ZIFT?
- f) What is batch reservation of serum?
- g) What are knockout mice?
- h) What is cryopreservation?

(8x2)

**UNIT - I**

- II. a) Discuss the structure and function of lysosomes.
- b) Discuss the role and working of carbon dioxide incubator in cell culture. (2x8)
- III. a) Discuss the constituents and role of serum free media
- b) Discuss the role and method of survival assay for cytotoxicity measurement. (2x8)

**UNIT - II**

- IV. a) Discuss the role of molecular techniques in cell line characterization.
- b) Discuss the role of stem cells in tissue regeneration. (2x8)
- V. a) Discuss how humanized antibodies are generated.
- b) Discuss the trypsinization procedure for cell disaggregation. (2x8)

**UNIT - III**

- VI. a) Describe the methods for raising transgenic silkworms and their applications in sericulture.
- b) Discuss the role of transfection in raising high quality cattle. (9,7)

P.T.O.

(2)

- VII. a) Discuss the major causes of transformation in cell culture and features of transformed cells.
- b) Discuss the role of Biopesticides in pest management. (2x8)

#### UNIT - IV

- VIII. Discuss the steps in IVF. Discuss the role of hormonal intervention in the same. (16)
- IX. a) Discuss the procedure of reproductive cloning and associated ethical concerns.
- b) Discuss the different Biotechnological technique's employed for Biodiversity conservation. (2x8)

x-x-x