Exam.Code:0437
Sub. Code: 3479

2123

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. I which is compulsory and selecting one question from each Unit.*

x-x-x

I. Attempt the following:-

a) What is a cell line?

b) What is stirrer culture?

c) What are humanized antibodies?

d) What is transformation?

e) What is embryo transfer in IVF?

f) What is serum free adaptation?

g) What is gene therapy?

h) What is reproductive cloning? (8x2)

UNIT - I

II. a) Discuss the structure and function of endoplasmic reticulum.

b) Discuss the role and working of phase contrast microscope in cell culture. (2x8)

III. a) Discuss the type, concentration and role of serum in media.

b) Discuss the role and method of inflammation assay for cytotoxicity measurement. (2x8)

UNIT - II

IV. a) Discuss the role of immunological techniques in cell line characterization.

b) Discuss the techniques for scale up of monolayer cultures. (2x8)

V. a) Discuss how monoclonal antibodies are generated and their applications.

b) Discuss the role of trypsin in cell disaggregation. (2x8)

UNIT - III

VI. a) Describe the applications of Biotechnology in sericulture.

b) Discuss how transgenesis helps in improving cattle quality. (2x8)

P.T.O.

VII. a) Discuss the factors responsible for transformation of animal cells in culture.

b) Discuss how rDNA technology plays a role in pest control with an example. (2x8)

UNIT - IV

VIII. Discuss the procedure of IVF and role of associated reproductive techniques to improve success rate. (16)

IX. a) Discuss process of cloning, its applications and ethical concerns.

b) Discuss how Biotechnology has contributed towards Conservation of Biodiversity. (2x8)

x-x-x