Exam.Code:1032
Sub. Code: 7566

2023

M.E. (Bio-Technology), First Semester

Elective - I

ME-BIO-105(b): Cell and Cell Technology

Time allowed: 3 Hours Max. Marks: 50

***NOTE**: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Section.*

x-x-x

1. Write a very short note on followings (1*10=10)

   a) Generation time of cell culture

   b) Importance of split ratio

   c) Organotypic culture

   d) Cell extract types

   e) Application of Feeder layer

   f) Hoechst dye

   g) Therapeutic cloning

   h) Name two Anti-fungal agents

   i) Therapeutic cloning

   j) Multisurface bioreactor

Section-A

2. a) Give a detailed account of type and role of intercellular junctions in an animal cell culture. (6)

   b) Write down the advantages and disadvantages of serum free medium. (4)

3. a) Describe various methods used for isolating primary cell culture. (5)

   b) Enlist various facilities large scale ACC laboratories require. Also draw layout diagram of medium and large-scale laboratory. (5)

4. a) Write a note (Any one) (5)

   i. Biology of animal cell culture.

   ii. Cell culture contaminations

   b) Give a detailed account of nutrients requirement for animal cell culture. (5)

Section-B

5. a) Design an experiment to achieve transgenic mouse homozygous for "X" gene. (5)

   b) State the best method employed for scaling up the suspension culture and why. (5)

P.T.O.

6. a) Discuss the case study of generating mouse models of sickle cell disease. (5)

b) Taking one example each of therapeutic and reproductive cloning, analyse the promises and issues. (5)

7. a) Describe in detail process of synthesis of any one pharmaceutical product using mammalian culture. (6)

b) Write a note on cell culture contamination. (4)

x-x-x