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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(BT) (2011 Onwards) (Sem.-5)
ANIMAL CELL CULTURE & BIOTECHNOLOGY

Subject Code : BTBT-504

Paper ID : [A2076]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- a) What are the properties of Finite and Continuous cell lines?
- b) Explain the role of cell culture in the area of Immunology.
- c) What is balanced salt solution?
- d) Explain differentiation.
- e) Explain *in-vivo* gene therapy.
- f) What is cross contamination?
- g) What are the factors affecting scale up of cell culture?
- h) What is a cell line?
- i) What are the essential equipment's required in an animal cell culture lab?
- j) What are the disadvantages of using serum in media?

SECTION-B

2. How does paracrine signaling control the process of differentiation?
3. What are the factors which indicate the need for the replacement of media during cell culture?
4. What are the principles involved in the cryopreservation of cells? Describe the rationale for the freezing of cells.
5. Explain how Viscosity, Surface tension and Foaming play a role in optimal maintenance for tissue culture growth.
6. What are the factors required for scaling up cells in a bioreactor?

SECTION-C

7. What are the components present in serum which makes them suitable for cell culture?
8. What are transgenic? Describe in detail the different methods involved in the creation of Transgenic animals.
9. Explain the following :
 - a) Establishment of primary culture.
 - b) Gene therapy for human genetic disorders.