

(Following Paper ID and Roll No. to be filled in your Answer Books)

**PAPER ID :****Roll No.**

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**B.TECH.****Theory Examination (Semester-VI) 2015-16****ANIMAL BIOTECHNOLOGY****Time : 3 Hours****Max. Marks : 100****SECTION – A**1. Attempt **all** question parts :**10 × 2 = 20**

- List any 4 culture media used in animal cell culture.
- What is fibroblast? Mention its function in cell culture.
- Write down the methods available for disintegration of animal tissues prior to culturing.
- What is serum and mention its advantages in using for culture media?
- Mention the merits and demerits of using antibiotics in cell culture.
- Explain the role of CO<sub>2</sub> in animal cell culturing.
- What are the different gene transfer methods used in animal cells?
- List the approaches used for scaling up the monolayer culture.
- What are the limitations of microencapsulation of cell cultures?
- Mention the importance of marker genes in gene transfection.

**SECTION – B**2. Attempt any **three** question parts.**5 × 10 = 50**

- Explain the basic steps involved in preparation and sterilization of culture media.
- Describe the major types of biological contamination of cell culture and how to detect them.
- Write in detail about the process and requirements for the large scale production of animal cells.
- Elaborate the available methods in monitoring growth in cell culture and its significance.
- Discuss in detail about the safety and concerns of producing transgenic animals.
- Discuss the problems associated in growing adherent cells and how to overcome it?
- Explain the substrates used in the animal cell culture.
- Mention the physicochemical properties of the culture media components.

**SECTION – C**Attempt **any two** questions.**2 × 15 = 30**3. Attempt any **two** parts-

- Explain in detail applications and problems related to the Xenografts from animals.
- Discuss about the various methods to transfer recombinant DNA to the animal cells.
- Describe the techniques used for maintaining the cell lines for longer period.

4. Attempt any two parts-

- Explain in detail about the basic media requirements and the growth factor in cell culture media.
- Elaborate the production of therapeutic products from animal culture technology.
- Is cell cloning and animal cloning are same ? Discuss in detail about the process involved in the animal cell cloning and selection.

5. Attempt any **two** parts-

- Write in detail the various ways of producing transgenic animals.
- Elaborate the methods and strategies used in gene targeting for animal cells.
- Discuss in detail the various applications of stem cells. What are the techniques employed to generate stem cells from farm animals.

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