A 1195

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Fifth Semester

Industrial Bio–Technology

IB 036 — ANIMAL BIOTECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are transgenic animals?

2. How the viability of cell assessed?

3. What is meant by gene transfer vectors? Give an example.

4. What is a knock out mouse? Mention its use.

5. Define Xenotransplantation and their ethics.

6. What is the purpose of liquid nitrogen for preservation?

7. Describe the advantages of mammalian cell lines for expression of therapeutic proteins.

8. Explain the method to select gene – transduced tumor cells from parental tumor cells.

9. How to control the contamination on cell culture media?

10. What are the merits of human recombinant vaccines?

PART B — (5 × 16 = 80 marks)

11. (i) What is meant by gene therapy and mention its utilities. (6)

(ii) Explain the difficulties involved in the preparation and administration of gene therapy products. (10)

12. (a) Briefly describe the different methods for Invitro cultivation of animal cells.

Or

(b) Describe the methods for introduction of genetic material to animal cells.

13. (a) Compare and contrast cell culture and organ methods and its utilities.

Or

(b) Give the detailed explanation of hollo – fibre, roller bottle, spinner bottle and non cell factory methods to produce cells and cell – derived proteins. What are the merits and demerits of these methods?

14. (a) Write an essay on the application of IVF and embryo transfer.

Or

(b) Explain the important steps involved in down stream processing of an intro cellular biologic from genetically modified mammalian cells.

15. (a) Describe the methods to produce a primary cell culture using a fresh tissue. What are the phenotypic and functional differences between cells from the primary culture and cells from an established culture?

Or

(b) Give an account of animal cell culture bioreactor and their merits.
