

4. What are expression vectors ? Write down their functional elements and explain how do we detect transgenics with example of two selectable markers.
5. Why do we need to scale up the culture system ? Discuss in detail the scale up methods for suspension cells.
6. What are stem cells ? Write down the characteristics and plasticity of embryonic stem cells and their applications.
7. Write short notes on :
 - (a) Production of recombinant hormones
 - (b) Production of recombinant vaccines
8. What is IVF technology ? Discuss in detail the steps involved in production of animals with this technology. State the applications of IVF with reference to animals.

Exam. Code : 107406

Subject Code : 1786

B.Sc. (Bio Technology) 6th Semester

ANIMAL BIOTECHNOLOGY

Paper : BT-3

Time Allowed—2 Hours] [Maximum Marks—40

Note :— There are **Eight** questions of equal marks. Candidates are required to attempt any **Four** questions.

1. (a) Define cell line and cell strain. Differentiate between finite and continuous cell line and write down the full form, origin, morphology and general features of BHK, CHO and WI38 cell lines.
(b) Discuss the factors which indicate the need to replace the culture media.
2. (a) Define differentiation and dedifferentiation. How cell-cell interactions (homologous and heterologous interactions) do helps in induction and maintenance of differentiation ?
(b) Define organ culture. Discuss at least two methods used to raise organ culture also mention the advantages and limitations of organ culture.
3. Define transfection. Write down the objectives of gene transfer. Explain lipofaction and DEAE Dextran method of transfection.