(i) Printed Pages: 2 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 9 8 0

Exam. Code : 0 0 3 6

B.Sc. (Hons.) Biotechnology 4th Semester

1048

ANIMAL BIOTECHNOLOGY

Paper–BIOT-Sem-IV-IV-T

Time Allowed : Three Hours] **[Maximum Marks : 67**

Note :— Attempt **FIVE** questions in all. Q. No. **1** is compulsory. Select **ONE** question from each unit.

1. (a) Name one component of tissue engineering.

(b) Mention one application of organotypic culture.

(c) What is embryo transfer ?

(d) What is electroporation ?

(e) Name one viral vaccine.

(f) What is the role of aeration in cell culture scale up ?

(g) What is transfection ?

(h) Name two hormones produced using animal cell culture.

(i) What is structure integrity in histotypic cultures ?

(j) State one application of transgenic animals. 1.5×10=15

UNIT—I

2. (a) Discuss the mechanism of nutrient exchange in organotypic culture. 7

   (b) Discuss the applications of organotypic culture. 6

3. (a) Discuss how scaffolds are constructed in tissue engineering. 7

   (b) Describe any one method of cell imaging in 3D construct. 6

UNIT—II

4. (a) Discuss the process of embryo transfer in IVF. 6

   (b) Describe the role of cell lines in protein production. 7

5. (a) Discuss the scale up of cell culture by microcarriers. 7

   (b) Discuss how cultured cells are exploited for personalized vaccine. 6

UNIT—III

6. (a) Describe how a clone is selected after transgenesis. 7

   (b) Discuss the ethical issues related to use of transgenic animals. 6

7. Discuss different methods of gene transfer for raising transgenic animals. 13

UNIT—IV

8. (a) Discuss the technique of antibiotic production in cultured animal cells. 7

   (b) Explain how human growth factors are produced using cultured animal cells. 6

9. (a) Discuss biological importance of producing hormones in cells. 6

   (b) Discuss the technique for insulin production in cultured animal cells. 7