



Name :

Roll No. :

Invigilator's Signature :

CS/B.Sc.(H)/BT/SEM-4/ABT-404/2012

2012

ANIMAL BIOTECHNOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Integration of foreign DNA in pronucleus genome is
 - a) Random and in tandem
 - b) Random and dispersed
 - c) In telomere only
 - d) Craig
 - e) None of these.
- ii) Male pronucleus is preferable for microinjection because
 - a) It is larger than female pro nucleus
 - b) It provides better environment for DNA integration
 - c) Female pronucleus ruptures after microinjection
 - d) All of these.

CS/B.Sc.(H)/BT/SEM-4/ABT-404/2012



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. What is artificial insemination (AI) ? What are its advantages and disadvantages ? Discuss in detail the method of AI. $2 + 3 + 10$
8. What is DNA microinjection ? Discuss briefly the steps used for creating transgenic mammals by the DNA microinjection. What are the limitations of the DNA microinjection method in creating transgenic animals ? $1 + 10 + 4$
9. What is animal cloning ? Discuss the technique used for creating first mammalian clone. Discuss what molecular changes are required for transforming a fully differentiated somatic cell to give rise to a complete animal. $1 + 10 + 4$
10. Briefly describe the method of artificial insemination. Describe the use of artificial insemination in cattle industry. Discuss the difference between Somatic and Germline gene therapy. $7 + 4 + 4$
11. What is the foot and mouth disease of cattles ? How can this disease be controlled ? What are the applications of human genetic engineering ? $7 + 3 + 5$

