

U.G. 5th Semester Examination-2020**Molecular Biology & Biotechnology****[HONOURS]****Discipline Specific Elective (DSE)****Course Code : MBBT-DSE-T-503****(Animal Biotechnology)**

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **five** questions from the following:

2×5=10

- a) Gene therapy in human was first practised to cure which disease? Name one virus used as vector in gene therapy.
- b) What are Totipotent stem cells?
- c) What is Prophage?
- d) Name the major products of the *pol*-coding region of Retrovirus. What is the full form of SIV?
- e) Mention two advantages of microinjection.
- f) What is genetic engineering?
- g) What is artificial insemination?
- h) Define a Transgenic Animal.

2. Answer any **two** questions from the following:

5×2=10

- a) How are transgenic animals created?
- b) Describe Liposome mediated gene transfer.
- c) Differentiate between Prophage and Provirus.
- d) What is the aim of Molecular engineering?

3. Answer any **two** questions from the following:

10×2=20

- a) Describe Retroviral replication cycle.
- b) Write a note on Haematopoietic stem cells and gene therapy.
- c) Genetic modification can be applied in two very different ways: describe each. What are the Ethical Concerns of Genome Editing? 5+5
- d) Write short note on
 - i) Biolistics or Microprojectiles
 - ii) Polyethylene glycol mediated transfection.
