

**GUJARAT NATIONAL LAW UNIVERSITY
GANDHINAGAR**

Course: **Biotechnology**
Semester-II (Batch: 2016-21)

Mid Semester Test: Feb-Mar. 2017

Date: 4th March, 2017

Duration: 1 ½ hours

Max. Marks: 20

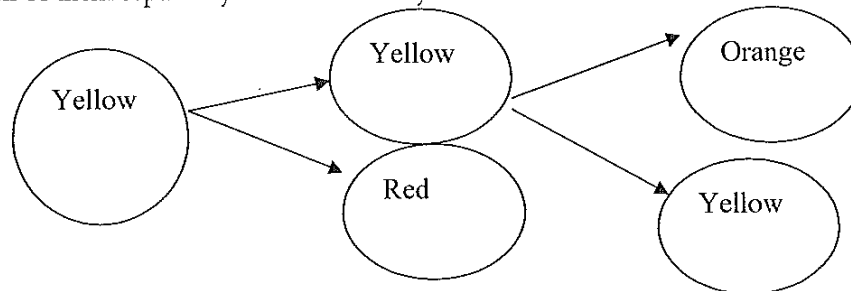
Instructions:

- Read the questions properly and write the answers in the given answer book.
- The respective marks for each question are indicated in-line.
- Do not write any thing on the question paper.
- Indicate correct question numbers in front of the answers.
- Draw diagrams wherever necessary (only with pencil).
- No questions or clarifications can be sought during the exam period, answer as it is, giving reason, if any.

Q.1 Answer **any two** of the following briefly:

Marks
(2x2=
04)

1. Write short notes on Southern blotting.
2. What are artificial seeds?
3. Pooja identifies a brightly colored mammalian species which she names *Magnanimous colourens*. She isolates the yellow and orange colour cell of this species and culture each of them separately. The results of yellow colors cells are as follows:



- a) Are the yellow cells stem cells? If so, is it multipotent or unipotent cells? Give reasons.
- b) If Neha wants to isolate embryonic stem cells from *M. colourens* embryo where exactly in a developing embryo can she find such cells? Explain its structure.

Q.2 Answer **any four** of the following:

(4x4=
16)

- (a) What is cryopreservation? Briefly describe the steps involved in it.
- (b) What are herbicide tolerant plants? Explain the mechanism of action of glyphosate.
- (c) Enlist important features that a plasmid must have to allow the cloning and amplification of Gene in bacterial cells.
- (d) What is GURT? Explain the mechanism of action of terminator gene with inducer and without inducer.
- (e) Describe some important findings of the Human Genome Project.
