

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5865

J

Unique Paper Code : 2162523601

Name of the Paper : Economic Botany and Biotechnology

Name of the Course : Life Science

Semester : VI

Duration : 3 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all.
3. Question No. 1 is compulsory.
4. All parts of a question must be answered together.

1. (a) Give scientific name of the following (**any five**) : (5)

- | | |
|----------------|-------------------|
| (i) Sunflower | (ii) Black Pepper |
| (iii) Cardamom | (iv) Soybean |
| (v) Gram | (vi) Jute |

- (b) Fill in the blanks (**Any five**) (5)

- (i) Eugenol is the major constituent in the aromatic oil extract from _____ .
- (ii) Gossypol is a polyphenolic aldehyde compound present in _____ .
- (iii) DNA Fingerprinting was developed by _____ .
- (iv) _____ refers to the in vitro multiplication and regeneration of plant material under aseptic and controlled environmental conditions.
- (v) The first commercially available genetically modified food was _____ engineered to have a longer shelf life.
- (vi) Millets are the member of family _____ .

P.T.O.

- (c) Match the following : (5)
- | | |
|-------------------------|-------------------------|
| (i) Haploid Culture | (a) Cloning Vector |
| (ii) GUS | (b) Triploid plants |
| (iii) Endosperm culture | (c) Vitamin A |
| (iv) pUC19 | (d) Reporter Gene |
| (v) Golden Rice | (e) Guha and Maheshwari |
2. Write short notes on the following (**any three**) : (3×5=15)
- (i) Any one method of gene transfer in plants
 - (ii) Evolution of bread wheat
 - (iii) Selectable marker
 - (iv) Germplasm conservation
 - (v) Vavilov's centre of origin of cultivated plants
3. (a) Differentiate the following (**any three**) : (3×3=9)
- (i) Genomic and cDNA libraries
 - (ii) Black tea and green tea
 - (iii) RAPD and RFLP
 - (iv) Southern and Western Blotting
- (b) What are pulses. Enumerate the economic and ecological importance of pulses. (6)
4. (a) Draw labelled diagrams for (**any two**) (2×5=10)
- (i) L.S. Clove Bud
 - (ii) L.S. wheat Caryopsis
 - (iii) T.S. Peppercorn
- (b) Briefly explain the PCR technique. Write its applications. (5)
5. (a) Describe anther culture. Enumerate the applications of this technique. (7)
- (b) What is Golden rice? Explain the steps involved in the development of Golden rice with the help of suitable diagram. (8)