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**6 SEM TDC BOTH (CBCS) C 14**

**2023**

( May/June )

**BOTANY**

( Core )

Paper : C-14

( **Plant Biotechnology** )

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks for the questions*

1. Answer the following questions : 1×5=5
- (a) Define callus.
  - (b) What is synthetic seed?
  - (c) Define androgenesis.
  - (d) What is edible vaccine?
  - (e) Who coined the term 'biotechnology'?

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2. Write briefly on any *five* of the following :

2×5=10

(a) Cryopreservation

(b) Recombinant DNA

(c) Phagemid

(d) Shuttle vector

(e) Golden rice

(f) Humulin

3. Write short notes on any *four* of the following :

5×4=20

(a) Composition of MS medium

(b) Role of growth regulators in tissue culture

(c) Biological role of restriction enzyme

(d) Properties of a good cloning vector

(e) Lambda phage

(f) Tissue culture media

4. Define transgenic crop. Discuss about the approaches to improve quality traits in transgenic crops.

1+7=8

Or

Describe about the electroporation and microprojectile bombardment method of gene transfer.

4+4=8

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( Continued )

( 3 )

5. Describe the method of protoplast isolation. Also discuss two strategies used for the selection of hybrid protoplast.

5+5=10

Or

What do you mean by gene cloning? Discuss in detail any two methods of construction of genomic library.

2+8=10

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