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3 SEM TDC BOT M 3

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(November)

BOTANY

(Major)

Course : 303

(Microbiology and Biotechnology)

Full Marks : 48

Pass Marks : 19 (Backlog)/14 (2014 onwards)

Time : 2 hours

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

1. (a) Write the correct option of the following :

1×3=3

- (i) The solidifying agent in a PDA medium is potato/dextrose/agar-agar.
- (ii) The soil microflora available to the surrounding regions of the root but not attached to the root are called rhizoplane/rhizosphere/toposphere microflora.
- (iii) The plant viruses contain RNA/DNA/both RNA and DNA.

4. (a) What is genetic engineering? What is the role of genetic engineering in biotechnology? Give an account of the merits and demerits of genetic engineering. 2+3+6=11

Or

- (b) What are the basic principles of tissue culture? Give the composition of a common medium for tissue culture. Give short accounts of protoplast fusion and somatic hybridization. 3+5+3=11

5. Write short notes on any *four* of the following : 3×4=12

- (a) Cyanobacterial biofertilizer
- (b) Rhizosphere microflora
- (c) Sterilization of culture media
- (d) Mycoplasma
- (e) Antibiotic and human welfare
- (f) Laminar airflow chamber
