

3 SEM TDC BOT M 3

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(November)

BOTANY

(Major)

Course : 303

(Microbiology and Biotechnology)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

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

1. (a) Fill in the blanks : 1×3=3
- (i) BAC stands for _____.
 - (ii) _____ is the example of non-symbiotic bacteria.
 - (iii) _____ are infectious protein molecules responsible for some diseases.
- (b) Choose the correct answer of the following : 1×3=3
- (i) Bacterium with tuft of flagella at one end is called monotrichous / atrichous / lophotrichous one.

(ii) Retroviruses contain SS DNA / DS DNA / RNA / None of these.

(iii) Transposons may be used as marker/vector/screener in genetic engineering.

(c) Write short notes on the following :

- | | |
|----------------------|---|
| (i) Serial dilution | 4 |
| (ii) Laminar airflow | 3 |
| (iii) Antibiotics | 3 |

2. What are the characteristic features of viruses? Give an account of mechanism of replication of viruses. Give diagrams. 4+4+2=10

Or

What do you mean by culture media? Explain different types of culture media. Describe the techniques of isolation of microbes from soil. 3+3+4=10

3. What is genetic engineering? Mention the techniques involved in genetic engineering. What are the merits and demerits of genetic engineering? 4+4+2=10

Or

What is biofertilizer? Describe different types of biofertilizers and their significances. 3+4+3=10

(3)

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

- (a) Rhizosphere microflora
- (b) Pasteurization of milk
- (c) Transformation
- (d) Production of vinegar
- (e) Somatic hybridization

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