

KNT/KW/16/5213

**Bachelor of Science (B.Sc.) Semester–VI (C.B.S.) Examination**

**BIOTECHNOLOGY**

**(Microbiology)**

**Paper–2**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) **All** questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. (a) Describe blue-white method for selection of cells carrying recombinant plasmid. 2½
- (b) Describe calcium chloride method for introducing foreign DNA into the bacterial cells. 2½
- (c) Write a note on p<sup>BR 322</sup>. 2½
- (d) What are restriction endonuclease enzymes ? Explain with suitable examples. 2½

**OR**

- (e) Describe electroporation method for introducing foreign DNA into the host cells. 2½
  - (f) Describe colony hybridization technique. 2½
  - (g) Write a note on p<sup>UC 18/19</sup>. 2½
  - (h) Write a note on DNA ligation. 2½
2. Describe production of Salk Vaccine. 10

**OR**

- Describe production of Anti Tetanus Serum (ATS). 10
3. What are biopesticides ? Explain with the help of suitable examples. 10

**OR**

- What are biosensors ? Describe various types of biosensors and their applications. 10
4. Write notes on :
    - (a) Genetically modified foods 5
    - (b) Soya sauce 5

**OR**

- (c) BT cotton 5
- (d) Dolly sheep 5

NVM-5460

(Contd.)

5. Solve any **ten** :

- |   |   |
|---|---|
| (i) What is the role of topoisomerases ?                              | 1 |
| (ii) Name the antibiotic marker gene present in p <sup>SC 101</sup> . | 1 |
| (iii) Give the source of Taq polymerase.                              | 1 |
| (iv) What is a hybridoma ?  | 1 |
| (v) What are edible vaccines ?  | 1 |
| (vi) What are DNA vaccines ?  | 1 |
| (vii) What are biofertilizers ?                                       | 1 |
| (viii) What is microarray ?   | 1 |
| (ix) Give two possible hazards of biotechnology.                      | 1 |
| (x) What is Sufu ?  | 1 |
| (xi) What is meant by knockout mice ?                                 | 1 |
| (xii) What is meso ?  | 1 |