

**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 $p^{BR\ 322}$ .	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 $p^{UC\ 18/19}$ .	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

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