

**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. Discuss in detail about different methods used for selection of recombinants. 10

**OR**

Give a detailed account of PCR and its applications. 10

2. Describe in detail production of Salk polio vaccine. 10

**OR**

Describe the process of production of monoclonal antibody and give its applications. 10

3. (A) Describe characteristic features and types of biosensors. 5

(B) Discuss ethics and hazards of biotechnology. 5

**OR**

(C) Describe briefly method used for induction of protoplast fusion and its significance in agriculture biotechnology. 5

(D) Discuss characteristic features and applications of microarrays in biotechnology. 5

4. (A) Explain genetically modified foods. 2½

(B) Write down the steps involved in soya sauce preparation. 2½

(C) Give an account of Bt genes and mechanism of action of cry proteins. 2½

(D) Describe production of knockout mice as a significance of targeted gene transfer. 2½

**OR**

(E) Give the production of miso. 2½

(F) What is transgenic animal ? Explain with example of Dolly sheep. 2½

(G) What is oriental food ? Explain with the example of sufu. 2½

(H) Write a note on milching animal. 2½

5. Solve any **ten** questions :

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| (i) What are restriction endonucleases ?   | 1 |
| (ii) What is cosmid ?  | 1 |
| (iii) What is cDNA library ?   | 1 |
| (iv) What is interferon ?  | 1 |
| (v) What are edible vaccines ?   | 1 |
| (vi) What is ATS ?   | 1 |
| (vii) What are biochips ?  | 1 |
| (viii) What is the significance of phosphate solubilising bacteria in soil fertility ? | 1 |
| (ix) What is the advantage of proteinase inhibitor ?                                   | 1 |
| (x) What is meant by transfection ?  | 1 |
| (xi) What is a clone ?   | 1 |
| (xii) What is the significance of golden rice ?  | 1 |