SM-110

September-2020

B.Sc., Sem.-VI

311 : Microbiology
(Biotechnology)
(New)

Time : 2 Hours] **[Max. Marks : 50**

Instructions : (1) Students should write the answers from whichever the question paper applicable to them, either **"New Course"** of **"Old Course"** and it must be mentioned at the beginning of the answer paper.

(2) Answer any **three (03)** questions out of **eight (08)** questions.

(3) Question No. **9** is compulsory.

(4) Draw figures wherever necessary.

Section – I

1. Explain interdisciplinary and multidisciplinary nature of biotechnology. **14**

2. (A) Discuss modern Biotechnology. **7**

   (B) Discuss scope of Biotechnology. **7**

3. Discuss principles, types and applications of centrifuge. **14**

4. (A) Discuss agarose gel electrophoresis technique. **7**

   (B) Write a note on biosensors. **7**

5. Discuss plant tissue culture in detail. **14**

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6. (A) Describe principle and applications of Northern blotting. 7

(B) Write a note on Crisper Cas 9. 7

7. Discuss transgenic animals with suitable examples. 14

8. (A) Write a note on IPR. 7

(B) Discuss baker's yeast production process. 7

Section – II

9. Answer in short : (Any **Eight**) 8

(1) Mention any one application of environmental Biotechnology.

(2) Name one centre of biotechnology research and education established by Government of India.

(3) Give full form of GSBTM.

(4) Name one Biotechnology company of Indian origin.

(5) What is Beer Lambert's law ?

(6) Give principle of paper chromatography.

(7) What is HPLC?

(8) Give full form of SDS PAGE.

(9) What is totipotency ?

(10) What are cell lines ?

(11) What is callus ?

(12) Name one enzyme used in tissue disaggregation.

(13) Name a bacterium used for plant transgenesis.

(14) What is electroporation ?

(15) Name two enzymes with therapeutic use.

(16) Name herbicide resistant plant.

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