Roll No : .....

Total No. of Questions : **11**] [Total No. of Printed Pages : **3**

SP–719

M.Sc. (Final) Examination, 2021

BIOTECHNOLOGY

Paper - VIII

(Industrial Biotechnology)

Time : 1½ Hours] [*Maximum Marks : 75*

Section–A **(Marks : 2 × 10 = 20)**

Note :– Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

(खण्ड–अ) **(अंक : 2 × 10 = 20)**

नोट :– सभी **दस** प्रश्नों के उत्तर दीजिए (उत्तर-सीमा **50** शब्द)। प्रत्येक प्रश्न **2** अंक का है।

Section–B **(Marks : 5 × 5 = 25)**

Note :– Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

(खण्ड–ब) **(अंक : 5 × 5 = 25)**

नोट :– सभी **पाँच** प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा **200** शब्द)। प्रत्येक प्रश्न **5** अंक का है।

Section–C **(Marks : 10 × 3 = 30)**

Note :– Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

(खण्ड–स) **(अंक : 10 × 3 = 30)**

नोट :– पाँच में से किन्हीं **तीन** प्रश्नों के उत्तर दीजिए (उत्तर-सीमा **500** शब्द)। प्रत्येक प्रश्न **10** अंक का है।

Section–A

2 each

1. Briefly explain :

   (a) Media Sterlization

   (b) Fermentation

   (c) Single Cell Proteins

   (d) Canning and Packing

   (e) In Nitro Technique

   (f) Herbicide Tolerance

   (g) Synthetic Seed

   (h) Green Reactor

   (i) Green House

   (j) Drawbacks of Acelimatization

Section–B

5 each

2. Explain different types of Fermentation Processes.

Or

Write a short note on structure and mechanism of Photobioreactor ?

3. Describe the procedure of industrial production of ethanol.

Or

Write a note on sterlization and pasteurization of food products.

4. Explain the application of protoplast culture in hybridization.

Or

Write a note on insect tolerant plant.

5. Give a note on Green Extraction.

Or

Explain the use of robotics in plant production.

6. Briefly explain the process of acclimatization of plant tissue culture raised plants.

Or

Discuss the commercial opportunities of tissue culture technique and its products.

Section–C 10 each

7. Explain the process of isolation, preservation and maintenance of industrial micro-organisms.

8. Explain the process of industrial production of hormones and vaccines.

9. Discuss the current status and commercial application of genetically engineered plants.

10. Describe the process of synthetic seed formation, its maintenance and application.

11. Briefly describe application of green house management and operation.