

D

(Printed Pages 3)

(20721)

Roll No. ....

B.Sc. Bio.-Tech.-III Year

## NS-3478 (CV-II)

**B.Sc. Bio-Technology Examination,**

**June-2021**

**Industrial Bio-Technology**

**(B-306)**

**B.Sc. (Bio-Tech.)**

*Time : 1½ Hours ]*

*[Maximum Marks : 75*

**Note :** Attempt any **two** questions. All carry equal marks.

1. Describe about the various product of fermentation industry.
2. Write notes on the following:
  - (a) Industrial microorganisms
  - (b) Application of fermentation technology

(c) Solid state fermentation

3. Describe in detail about Microbial growth kinetics in batch and continuous fermentation process.
4. Describe in detail about types of bioreactor.
5. Describe about commercial production of the following :
  - (a) Lipase
  - (b) Protease
6. Describe detail process for commercial production of Vitamins.
7. Write notes on the following:
  - (a) Fermented dairy products.
  - (b) Transgenic cows

**P.T.O.**

**NS-3478(CV-II)/2**

8. Give a detailed account of Protein engineering.
9. Give a detailed account of food adulteration with reference to food grains.
10. Write an essay on waste as fermentation substrate.