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(20620) Roll No. ....  
B.Sc. (Biotech.) III Year

### NS-3478 (CV)

**B.Sc. (Biotechnology) Examination,**

**June - 2020**

**Industrial Biotechnology**

**(B-306)**

*Time : Two Hours / Maximum Marks : 75*

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

1. How are some certain microorganisms selected over others for industrial applications? Give examples.
2. Write short notes on any two :
  - (i) *Asparases*
  - (ii) *Proteases*
  - (iii) *Amylases*

3. Write about commercial production of antibiotics in details.
4. Elaborate on various types of Bioreactors. Also differentiate between fermentors and bioreactors.
5. Write about commercial production of :
  - (i) Vitamin B<sub>12</sub>
  - (ii) Riboflavin
6. Elaborate on food adulteration with special reference to :
  - (i) Dairy products
  - (ii) Food grains
7. Describe about solid state fermentation in details.
8. Write a detailed note on stability analysis of bioreactors.

(9) Write short notes on :

(i) Fermentation Media Aeration

(ii) Batch v/s Continuous culture

10. Give an elaborate note on Photobioreactors highlighting their application and industrial significance.