

**UKA TARSADIA UNIVERSITY**  
**B. Pharm. Semester - IV**  
**MID-SEMESTER EXAM-1 (WEEKLY TEST)**  
**PHARMACEUTICAL BIOTECHNOLOGY (30020402)**  
Enrollment NO. \_\_\_\_\_

Date: 18/03/2013

Total Marks: 20

**Q1: Answer the following: (Any four)**

[4]

1. Define: Microbiological assay.
2. Enlist different methods of enzyme immobilization.
3. Which types of bonds are involved in enzyme immobilization of adsorption method?
4. Define: fermentation and fermenter.
5. Enlist different methods in primary screening techniques.

**Q2: Answer the following: (Any three)**

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1. Define biotechnology and enlist various branches where biotechnology is applied.
2. Write operational advantages of enzyme immobilization.
3. Name the culture used for the production of the following using fermentation technique:  
(i) Streptomycin (ii) Penicillin (iii) Cyanocobalamin (iv) Riboflavin
4. Explain: Why secondary screening is essential in fermentation.

**Q3: Answer the following: (Any two)**

[10]

1. Write a detail note on: Factors affecting enzyme kinetics in enzyme immobilization.
2. Write therapeutic application in enzyme immobilization.
3. Draw a neat and labeled diagram of fermenter and explain various important factors/ parameters responsible for optimized fermenter design.