

Seat No.:-----

Enrolment No.:-----

UKA TARSADIA UNIVERSITY

Maliba Pharmacy College

B. Pharm 4th Semester

Mid semester Examination-II, April 2013

030020402- Pharmaceutical Biotechnology

Time: 10:00 A.M. to 1:00 P.M.

Max. Marks: **70**

Date: 30/04/2013

Instructions:

- Question no. **1 is compulsory.**
- From Q.2 to Q.7, attempt any **four** questions.
- Make suitable assumption whenever necessary.
- Figures to the right indicate full marks.

- Q.1 (a) Answer the following: (any six) 06**
- 1 Who is the father of Biotechnology?
 - 2 Define: Recombinant DNA technology.
 - 3 Enlist different types of Cloning vector.
 - 4 Define: Fermentation.
 - 5 Write the full form of ATCC.
 - 6 Enlist the factors which affect enzyme kinetics.
 - 7 Explain the term: Silent mutation.
 - 8 Enlist different methods for Protoplasts fusion.
- (b) Describe in brief: (any four) 08**
- 1 Explain: Chargaff's rule in genetics.
 - 2 Explain the difference between RNA polymerase and DNA polymerase III.
 - 3 Write the steps of DNA transformation in bacterial cell.
 - 4 Differentiate transformation and transduction.
 - 5 Write down the characteristics of production strain for fermentation industry.
 - 6 Comment: Use of enzymes in industrial application is limited.
- Q.2 (a) Explain Genotype and Phenotype characteristics of bacteria. 04**
- (b) Write a note on: Watson and Crick Model of DNA. 05**
- (c) Write a note on different branches of Biotechnology. 05**
- Q.3 (a) Explain the role of HAT media for selection of hybrid cell. 04**
- (b) Write in detail: Recombinant DNA technology. 05**
- (c) Write all steps in detail for production of Monoclonal antibodies. 05**
- Q.4 (a) Write in detail: Hematopoietic growth factors produced through rDNA technology. 04**
- (b) Application of Recombinant DNA technology. 05**
- (c) Write in detail: Monoclonal antibody based pharmaceuticals. 05**
- Q.5 (a) Explain primary screening methods of micro organisms for fermentation industry. 04**
- (b) Write a detail note on: Media for fermentation industry. 05**
- (c) Explain important parameters to be optimized in fermenter designing. 05**

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- Q.6**
- (a)** Write steps for Microbiological Assay of Amino acids. **04**
 - (b)** Explain: Flow sheet for recovery of Penicillin by fermentation process. **05**
 - (c)** Write a detail note on: Microbiological assay of antibiotics by Two-level assay method **05**
- Q.7**
- (a)** Explain how K_m value and pH profile of enzyme are affected by enzyme immobilization **04**
 - (b)** Write in detail: Enzyme immobilization by adsorption. **05**
 - (c)** Write a detail note on: Pharmaceutical application of enzyme immobilization. **05**