



SB-1162

Third Year B. Pharm. Examination

March / April – 2011

PH - 302 : Pharmaceutical Biotechnology

Time : 3 Hours]

[Total Marks : 70

Instruction :

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="T. Y. B. Pharm."/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="PH - 302 : Pharmaceutical Biotechnology"/>	<input type="text"/>
Subject Code No. : <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="6"/> <input type="text" value="2"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="1&amp;2"/>	<input type="text"/>
	Student's Signature

SECTION - I

- 1 Answer any **five** : 10
  - (i) What is Gene therapy ?
  - (ii) Differentiate between epitope and paratope.
  - (iii) What is hybridoma technology ?
  - (iv) "What is central dogma of biology ?
  - (v) Differentiate fermenter and bioreactor.
  - (vi) Write a brief note on carrier used for immobilization
  - (vii) Draw labelled diagram of pBR322.
  
- 2 Discuss any **four** in detail : 16
  - (i) RNA as a genetic material.
  - (ii) Scope of biotechnology in pharmacy.
  - (iii) Watson and Crick model of DNA double helix.
  - (iv) Classes of Immunoglobulin and their properties
  - (v) Retrovirus mediated gene delivery
  - (vi) Compare and differentiate various fermentation processes.
  
- 3 Answer any **three** in brief : 9
  - (i) Enumerate Ag-Ab reacton.
  - (ii) Therapeutic application of animal cell culture.
  - (iii) Single cell protein
  - (iv) List out methods for immobilization
  - (v) Production steps for Vit B12.

## SECTION - II

- 4 Answer any **eleven** in short : 11
- (i) Define Biotechnology
  - (ii) What is Chelation ?
  - (iii) What is targeted delivery ?
  - (iv) What are expression vectors ?
  - (v) What is site directed mutagenesis ?
  - (vi) What is antigen ?
  - (vii) Define gene.
  - (viii) Define cloning vectors.
  - (ix) What is MHC ?
  - (x) What are haptens ?
  - (xi) What is Okazaki fragment ?
  - (xii) What is SSB ?
  - (xiii) Expand Fish
  - (xiv) Define Mutation
- 5 Explain any **three** in brief : 12
- (i) Merits and demerits of gene therapy
  - (ii) Macrophage
  - (iii) Scale up of fermentation process.
  - (iv) Liposomes mediated drug delivery system
  - (v) Production steps for monoclonal antibody.
- 6 Answer any **two** in details : 12
- (i) Application of Recombinant DNA technology
  - (ii) DNA replication
  - (iii) What is microbial biotransformation ? Explain in details with special reference to steroids.
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