

**SINHAGAD – II (2007 COURSE):      JULY - 2013**  
**SUBJECT: PHARMACEUTICAL BIOTECHNOLOGY - III**

Day: Friday  
Date: 05/07/2013

Time: **10:00 A.M. TO 1:00 P.M.**  
Max. Marks: 100

**N.B.:**

- 1) Question No. 1 and 5 are **COMPULSORY**. Out of the remaining attempt Any **TWO** questions from Section – I and **TWO** questions from Section – II.
- 2) Figures to the right indicate full marks.
- 3) Answer to the two sections should be written in **SEPARATE** answer books.
- 4) Neat diagrams wherever necessary.

**SECTION-I**

- Q.1**      What are recombinant vaccines? Discuss their advantages. (10)
- Q.2**      Explain key steps in production of monoclonal antibodies. Write an account of its application as diagnostic tool. (20)
- Q.3**      What are viral vectors? Discuss applications in gene delivery with suitable examples. (20)
- Q.4**      Write note on any **TWO** of the following: (20)
- a) ISCOMS
  - b) Saponins as adjuvant
  - c) MHC complex
  - d) Disadvantages of DNA vaccines
  - e) synthetic peptides

**SECTION-II**

- Q.5**      What is personalized medicine? Add a note on Cytochrome P450. (10)
- Q.6**      a) Explain what you learned from Human genome project. (20)  
            b) How would it influence future of drug discovery.
- Q.7**      Elaborate applications of Bioinformatics in pharmaceutical research. (20)
- Q.8**      Write short notes on: (20)
- a) Shotgun strategy
  - b) Gene sequence Database
  - c) Small interfering RNA
  - d) Haplotype
  - e) BAC Library

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SINHAGAD-II (CBCS – 2012 COURSE) : JULY-2013

SUBJECT : ADVANCE CORE SUBJECT-II :  
ADVANCED PHARMACEUTICAL BIOTECHNOLOGY-II

Day : Wednesday  
Date : 03-07-2013

Time : 10:00 A.M. TO 1:00 P.M.  
Max. Marks : 60

**N.B.:**

- 1) Attempt any **THREE** questions from Section-I and any **THREE** questions from Section-II.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

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**SECTION-I**

- Q.1** Describe in details MHC complex and the process with which antigens are presented on cell surface. (10)
- Q.2** Differentiate monoclonal and polyclonal antibodies. Write applications of monoclonal antibodies. (10)
- Q.3** Describe different cell types involved in immune response. (10)
- Q.4** Write elaborate notes on: (10)
- a) ELISA
  - b) Adjuvants

**SECTION-II**

- Q.5** What is site directed mutagenesis? Describe oligo beased method to mutate a target site. (10)
- Q.6** How enzymes are immobilized? Discuss various methods giving their advantages. (10)
- Q.7** Outline a down-stream process for recovery of recombinant protein describing key steps involved. (10)
- Q.8** Write elaborate notes on: (10)
- a) Bioreactor
  - b) Enzyme inhibitor

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