SINHAGAD-II (CBCS **SUMMER - 2015**

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

Day : Thursday
Date : 02-07-2015

Time : 10:00AM 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.

SECTION-I

Q.1 Describe in details production of monoclonal antibodies with a note on its therapeutic applications. **(10)**

Q.2 Describe recombinant vaccines. What are its advantages over conventional vaccines? **(10)**

Q.3 Describe in details innate and acquired immunity. **(10)**

Q.4 Write elaborate notes on: **(10)**

a) Adjuvants
b) Flow-cytometry

SECTION-II

Q.5 What is protein engineering? Discuss a few applications by giving suitable examples. **(10)**

Q.6 Describe enzyme immobilization. Write merits and demerits of different immobilization techniques. **(10)**

Q.7 What is down-stream processing? Create a flow chart of down stream process for yield of recombinant protein. **(10)**

Q.8 Write elaborate notes on: **(10)**

a) Industrially important enzymes
b) Km value.

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SINHAGAD-II (CBCS **SUMMER - 2015**

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

Day : Saturday
Date : 04-07-2015

Time : 10:00AM 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.

SECTION-I

Q.1 Chronologically describe how a long DNA is folded into a chromosome structure **(10)**

Q.2 What is shotgun sequencing strategy? Describe how shotgun approach proved useful in sequencing large genomes. **(10)**

Q.3 Describe what you learned form human genome project. **(10)**

Q.4 Write elaborate notes on: **(10)**
a) Real-time PCR
b) Small interfering RNA

SECTION-II

Q.5 What are stem cells? Write about stem cell banking and its various therapeutic applications. **(10)**

Q.6 Discuss various applications of animal cell culture. What are merits and demerits of this technique? **(10)**

Q.7 What is NCBI? Describe various tools of sequence analysis offered at this site. **(10)**

Q.8 Write elaborate notes on: **(10)**
a) Cell Viability assay
b) Sequence alignment

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