

SINHAGAD-I (2007 COURSE) : JULY - 2013
SUBJECT : PHARMACEUTICAL BIOTECHNOLOGY-I

Day : Thursday
Date : 04/07/2013

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

N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from EACH Section.
- 2) Answers to the two sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

SECTION-I

Q.1 Answer the following (Any **TWO**) : (10)

- a) What is DNA renaturation? Explain effect of complexity on rate of renaturation.
- b) What is site directed mutation? Explain its importance.
- c) What is density gradient? Explain ultra centrifugation.

Q.2 Answer the following: (20)

- a) What is reverse transcription? Give its importance.
- b) What are vectors? Explain different types of vectors.

Q.3 Answer the following any **TWO** of the following: (20)

- a) What is gene sequencing? Explain dideoxy method of sequencing.
- b) What is electrophoretic mobility? Explain various factors affecting electrophoretic mobility.
- c) What are primers? How primers are selected for PCR assay?

Q.4 Write short notes on any **FOUR** of the following: (20)

- a) Replication of plasmid.
- b) Marker genes.
- c) Restriction Enzymes.
- d) Explain DNA complexity.
- e) Thermal cycler.

P.T.O.

SECTION-II

Q.5 Answer the following (Any **Two**) : **(10)**

- a) What is processing of RNA? Explain in detail.
- b) How m-RNA fraction is isolated from total RNA fraction?
- c) What is gene amplification? Explain its importance.

Q.6 Answer the following: **(20)**

- a) What is restriction mapping? Explain in detail.
- b) Explain the effect of following reagent on protein structure.
 - i) Papain
 - ii) β -mercaptoenanol
 - iii) Sodium tungstate
 - iv) Trichloro acetic acid
 - v) Cynogen bromide

Q.7 Answer the following: **(20)**

- a) Explain various interactions of tertiary structure of protein.
- b) What is conjugation and transduction? Explain in detail.

Q.8 Write short note on any **FOUR** of the following: **(20)**

- a) Effect of UV light on DNA structure.
- b) DNA polymerase-I
- c) Restriction sites.
- d) Methods of DNA isolation.
- e) Southern blotting.

* * *