C 60216 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2014

(UG–CCSS)

Biotechnology

BT 6B 03—RECOMBINANT DNA TECHNOLOGY

Time : Three Hours Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions

1 Which among the following is a Type II restriction enzyme ?

(a) EcoK. (b) EcoP.

(c) EcoRI. (d) None of the above.

2 Which among the following is a sticky end cutter ?

(a) EcoRI. (b) Smal.

(c) Both (a) and (b). (d) None of the above.

3 Which among the following is a phasmid ?

(a) λEMBL. (b) λWESWB.

(c) λgt10. (d) ZAP.

4 Which among the following is a neutral detergent ?

(a) CTAB. (b) Triton X100.

(c) SDS. (d) None of the above.

5 Which among the following found only in replacement vectors ?

(a) Marker. (b) Promoter.

(c) Stuffer. (d) Terminator.

6 Which among the following is the odd one ?

(a) Triparentalmating. (b) Octopines.

(c) CaMV 35S promoter. (d) Virgenes.

Say True *or* False :

7 Maxam and Gilbert sequencing is a chain synthesis procedure.

8 Golden rice is carolenoid rich.

9 Flavr Savr works by antisense RNA technology.

10 P 322 recombinant are selected by a complementation.

Turn over

11 Virgenes are cis acting.

12 Phagemids can exist as both double stranded and single stranded form.

(12 x ¼ = 3 weightage)

II. Short Answer Type questions. Answer all *nine* questions :

13 Cointegrate vector.

14 Gharima.

15 Primer dimer.

16 Dideoxy nucleotides.

17 Yeast centramere plasmids.

18 TDNA.

19 Triparental mating.

20 Reverse transcriptase.

21 Cosmids.

(9 x 1 = 9 weightage)

III. Short Answer or Paragraph Questions. Answer any *five* **questions :**

22 What is Western Blotting ? Outline the principle of Western **blotting.**

23 Compare and contrast P 322 and PUC.

24 What is the principle of polymerase chain reaction ?

25 Briefly explain the principle of alkali denaturation procedure **of plasmid isolation.**

26 What is FISH ?

27 What is biolistics ?

28 Explain the role of phenol and chloroform in nucleic acid isolation.

(5 x 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions :

29 What are the applications of transgenic animals ?

30 Briefly explain the steps in isolating RNA from cells, **stressing on the importance of RNA are inhibitors.**

31 What is DNA fingerprinting ? What are its applications ?

(2 x 4 = 8 weightage)