Total No. of Questions :8]

P1517

SEAT No. :

[Total No. of Pages : 2

[5224]-403

M.Sc.

BIOCHEMISTRY

BCH - 472 : Genetic Engineering

(2013 Pattern) (Credit System) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

1) *Neat labelled diagrams must be drawn wherever necessary.*
2) *Solve section I and section II on separate answer books.*
3) *Solve any two from question 1 to Q.3 and any two from Q.5 to Q.7 Question 4 and Q.8 are compulsory.*

SECTION-I

Q1) Answer the following:

a) What is transfection? **[2]**

b) Write note on mammalian viral vectors. **[4]**

c) Explain process of DNA footprinting. **[4]**

Q2) Answer the following:

a) What are endonucleases? **[2]**

b) Write note on lambda phage vector. What are its advantages over plasmid vector. **[4]**

c) What are cosmids? Give its application in genetic engineering. **[4]**

Q3) Answer the following:

a) What are cosmids? **[2]**

b) Explain what is pyrosequencing? **[4]**

c) Explain selection of transformants using x-gal medium and lac Z gene.**[4]**

P.T.O.

Q4) Explain in detail.

a) Write about various ways to modify cut ends generated during cleavage by restriction enzyme. **[5]**

OR

b) Write note on RNAi technology and give its applications. **[5]**

SECTION-II

Q5) Answer the following:

a) What are cry proteins? **[2]**

b) Explain procedure of PCR and enlist its different types. **[4]**

c) Explain pesticide resistance with suitable example. **[4]**

Q6) Answer the following

a) Give any two examples of recombinant vaccines. **[2]**

b) What is RNAi technology? Give its applications. **[4]**

c) Write short note on applications of genome annotation technique. **[4]**

Q7) Answer the following

a) What are recombinant harmones? **[2]**

b) Explain the method of introducing mutations based on oligonucleotides. **[4]**

c) Give applications of genetic engineering in agriculture. **[4]**

Q8) Explain in detail.

a) What is protein engineering? Write note on its applications. **[5]**

OR

b) What is genomics? Explain study of transcriptome and proteome. **[5]**

৵৵৵