B.Sc. (Part-III) (with Credits)-Regular-Semester 2012 Sem VI

B.Sc.4502-Biochemistry-II : Molecular Biology & rDNA Technology Paper-II

P. Pages : 2 **GUG/W/16/5619**

Time : Three Hours * 0 0 9 4 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagrams wherever necessary.

1 a) Write a detailed note on features of genetic code. **5**

b) Discuss the structure of t-RNA and add a note on wobble hypothesis. **5**

OR

What do you mean by charged t-RNA? Explain the following in detail: **10**

i) Initiation of translation.

ii) Elongation of translation.

iii) EF-Tu-EF-Ts cycle.

2. a) What are Restriction endonucleases? Describe the types of restriction enzymes with suitable examples. **5**

b) How will you join the blunt ended DNA molecules? **5**

OR

Give a detailed procedure of PCR and discuss the applications of PCR in brief. **10**

3. a) What is the error correction mechanism in amino acylation? **2½**

b) Write a note on translocation. **2½**

c) What are the characteristics of an Ideal vector? **2½**

d) Describe the blue-white screening method. **2½**

OR

e) How the selection of initiation codon takes place? **2½**

f) Explain in brief how proteins are modified after translation? **2½**

g) Discuss the features of shuttle vectors. **2½**

h) Write a short note on western blotting. **2½**

4.	a)	Give the experiments performed for deciphering the genetic code.	**2½**
	b)	Write a note on termination of translation.	**2½**
	c)	Draw a well labelled structure of PBR 322.	**2½**
	d)	Compare between genomic and cDNA library.	**2½**

OR

	e)	Explain the structure of initiator tRNA.	**2½**
	f)	Give the experimental proof for the existence of A and P sites.	**2½**
	g)	What is the use of linkers and adaptors?	**2½**
	h)	Write a note on DNA fingerprinting.	**2½**
5.		Attempt **any ten** of the following:	
	a)	Write the names of any two stop codons.	**1**
	b)	Shine - Dalgarno sequences are also present in eukaryotes. True or false.	**1**
	c)	How would you write the name of a tRNA specific for cysteine.	**1**
	d)	Why there is a need of post translational modification of some proteins?	**1**
	e)	What is the site of protein synthesis in a cell?	**1**
	f)	Why transpeptidation reaction does not require ATP hydrolysis?	**1**
	g)	Enlist any two characteristics of a good host.	**1**
	h)	Define isoschizomers.	**1**
	i)	Give any one example of neoschizomer.	**1**
	j)	Define probe.	**1**
	k)	What is Bt cotton?	**1**
	l)	What is the use of electroporation method?	**1**

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