B. N. Bandodkar College of Science, Thane

Second Term-End Examination March - 2012

S.Y.B.Sc

Biotechnology : Paper II

Duration 2 hrs **Max Marks-60**

NB 1. All Questions are compulsory.

2. Figures to right indicate full marks.

Q.1 A Answer the following. 3

1. Name the enzyme responsible for capping eukaryotic mRNA.
2. What is crossing over?
3. What is Non mendelian inheritance?

Q.1 B Attempt any three of the following. 12

1. Justify: Genetic code is almost universal.
2. A woman with normal vision whose father is colorblind marries a man with normal vision whose father is color blind. However the couple's daughter is colorblind is infidelity suspected, explain the type of inheritance and draw a pedigree.
3. Explain the origin of mitochondria.
4. Write a note on 'Shine Dulgarno sequence.
5. What is the 3' end modification of eukaryotic mRNA? Give its significance. Name the enzymes and proteins involved in the process.

Q.2 A Answer the following.

1. What is consanguineous marriage?
2. What is Tetrad analysis?
3. What is pedigree analysis?

P.T.O.

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Q.2	B	Answer the following any two	12
	1.	Explain three point test cross with example of Drosophila?	
	2.	Describe Genetic linkage?	
	3.	Explain factors affecting crossing over?	
Q.3	A	Answer any three of the following.	3
	1.	What is GU-AG rule?	
	2.	Give the reaction catalyzed by Reverse Transcriptase.	
	3.	Name an amino acid that is encoded by only one codon.	
	4.	Give significance of sigma factor in prokaryotes.	
Q.3	B	Answer any two of the following.	12
	1.	Give detailed account of termination of transcription in prokaryotes.	
	2.	Explain elongation state of translation in bacteria.	
	3.	Compare and contrast: Gene expression in prokaryotes and eukaryotes.	
Q.4	A	Explain the sex determination in monoecious plants?	3
Q.4	B	Answer any two of the following: -	12
	1.	Describe ZZ-ZW method of sex determination.	
	2.	Explain Rules of non mendelian inheritance.	
	3.	Describe haplodiploidy.	