

M.Sc Semester-2 Examination

408

Biomedical Technology

Time : 2-30 Hours]

April-2024

[Max. Marks : 70

Q-I	1	Draw structure for the association of CRISPR with Cas9. Write a note on “Most used Cas enzymes”.	(14)
	2	Write a note on screening of bacterial colonies using oligonucleotide probe.	
	OR		
	1	Write a note on “Yeast two hybrid assay”.	
	2	Write a note on “Genome editing by CRISPR/Cas”.	
Q-II	1	Name the enzymes used in DNA technology and discuss any two.	(14)
	2	Write a note on: Plasmids and Phages.	
	OR		
	1	Write a note on construction of genomic library.	
	2	What are GMOs? Explain in detail.	
Q-III	1	Give a detailed account of the probe-based detection system for real-time PCR.	(14)
	2	Describe only the process of DNA foot-printing with a diagram.	
	OR		
	1	Write detailed notes and draw a diagram for the steps involved in PCR technique.	
	2	Write a detailed note about the uses of DNA profiling.	
Q-IV	1	Explain: DNA sequencing by chain termination method.	(14)
	2	Describe the procedure of the Western blotting technique.	
	OR		
	1	Write a detailed account of the chemical degradation method for DNA sequencing.	
	2	Give a detailed note on the steps involved in the Northern blotting process.	
Q-V	Answer any SEVEN out of TWELVE.		(14)
	1	Explain words: Entry clone, Donor vector.	02
	2	Write LR reaction.	02
	3	What are competent cells? Give one example?	02
	4	Explain one application of recombinant DNA technology.	02
	5	What are cosmids?	02
	6	What are artificial chromosomes?	02
	7	Draw a labelled diagram of RNA extraction using magnetic beads.	02
	8	Write about the master mix used in PCR.	02
	9	Give the name of cleavage agents used in the DNA foot-printing technique.	02
	10	During the Southern blotting procedure, which treatment is helpful to covalently bond blotted DNA with the nitrocellulose and nylon membrane?	02
	11	Write two differences between the dot blot technique and Western blotting.	02
	12	Give full form and definition of RFLP.	02

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