

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Fundamentals of Biotechnology

Subject Code: 5SC01FBT1

Branch: M.Sc.(Microbiology)

Semester: 1

Date: 28/03/2017

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

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|------------|---|-------------|
| Q-1 | Attempt the Following questions | (07) |
| | a. What do you mean by Genomic DNA? | 1 |
| | b. Define cDNA. | 1 |
| | c. What is the difference between Plasmid and Vector? | 1 |
| | d. What is a Clone? | 1 |
| | e. Define Gene. | 1 |
| | f. What do you mean by overexpression? | 1 |
| | g. What is the difference between Primer and Probe? | 1 |
| Q-2 | Attempt all questions | (14) |
| | a) Write a note on micropropagation. | 7 |
| | b) Write a note on application of animal cell culture techniques. | 7 |
| OR | | |
| Q-2 | Attempt all questions | (14) |
| | a) Discuss rDNA technology briefly. | 7 |
| | b) Describe the process of DNA joining with involvement of ligase and its mode of action. | 7 |
| Q-3 | Attempt all questions | (14) |
| | a) Write a note on western blotting technique. | 7 |
| | b) Define criteria for designing an efficient set of primer. | 7 |
| OR | | |
| Q-3 | Write a note on Vector. Discuss Phagmids and Cosmids. | (14) |



SECTION – II

Q-4	Attempt the Following questions	(07)
	a. What is palindromic sequence?	1
	b. What is the function of DNA ligase?	1
	c. What is the effect of concentration of agarose on separation?	1
	d. What is Ori site on plasmid?	1
	e. Define transformation.	1
	f. What is the significance of selectable marker in plasmids?	1
	g. What is the difference between endonuclease and exonuclease?	1
Q-5	Attempt all questions	(14)
	a) What are requirements to be fulfilled before filing Patent application?	7
	b) Write a note on Bioethics.	7
	OR	
Q-5	a) Discuss various Good Laboratory practices to be followed.	7
	b) Write a note on immobilization of enzymes.	7
Q-6	Attempt all questions	(14)
	a) Describe hybridoma technology in detail.	7
	b) Explain the technique of gene transfer Electroporation.	7
	OR	
Q-6	Write a note on Gene cloning strategies and techniques involved in it.	14

