C.U.SHAH UNIVERSITY Winter Examination-2018

Subject Name: Microbial Genetics

	Subject	Code: 4SC03MIG1	Branch: B.Sc. (Microbiolog	y)
	Semester	r: 3 Date: 29/11/2018	Time: 02:30 To 05:30	Marks: 70
	Instructio (1) (2) (3) (4) (4) (4) (5) (5) (5) (5) (5) (5) (5) (5) (5) (5	ons: Use of Programmable calculator & Instructions written on main answ Draw neat diagrams and figures (i Assume suitable data if needed.	& any other electronic instrument is prover book are strictly to be obeyed. if necessary) at right places.	hibited.
Q-1		Attempt the following question	ns:	(14)
Atte	a) b) c) d) e) f) g) h) i) j) k) l) m) n) mpt any f	Define Mutation Define Plasmid Define auxotrophic strain Define Transduction Define Transposon Define the term Plaque Define silent mutation Expand pUC Expand HFT In pBR322, B and R stand for In Hfr strain, integ Replicative mode of transpositi False. Name the codons responsible for Name the scientist who discover four questions from Q-2 to Q-8	andrespectively grates into ion is also known as cut and paste met for nonsense mutation gred the mechanism of transposition.	'. thod. True/
Q-2	a) b)	Attempt all questions Compare lytic cycle and lysoger Explain the mechanism of trans	nic cycle with the help of a labeled diag position in maize plant	(14) (7) (7)
Q-3	a) b)	Attempt all questions Discuss the experiment whic Conjugation in bacteria Design an experiment to different and transduction	the led to the discovery of the mec entiate between the mechanism of tran	(14) hanism of (7) sformation (7)
Q-4	a)	Attempt all questions Explain the importance of Ti pla	asmid	(14) (7)



	b)	Write a short note on the classification of bacterial plasmids	(7)
Q-5		Attempt all questions	(14)
-	a)	Compare generalized transduction and specialized transduction	(7)
	b)	What is the purpose of the Ames test? How are his bacteria used in this test?	(7)
Q-6		Attempt all questions	(14)
c	a)	How do base analogs lead to mutations? Explain with the help of an example.	(7)
	b)	What do you understand by Suppressor mutation? Briefly describe how intragenic suppressors may reverse the effects of mutations.	(7)
Q-7		Attempt all questions	(14)
-	a)	Compare a typical insertion sequence with a typical composite transposon in bacteria with the help of a labeled diagram.	(7)
	b)	What general characteristics are found in transposable elements? Explain the difference between replicative and nonreplicative transposition.	(7)
Q-8		Attempt all questions	(14)
	a)	Explain how Ac and Ds elements produce variegated corn kernels.	(7)
	b)	Briefly explain hybrid dysgenesis. How P elements lead to hybrid dysgenesis?	(7)

