C.U.SHAH UNIVERSITY **Summer Examination-2019**

Subject Name: Bioprocess technology

	Subject	Code: 4SC04BPT1	Branch: B.Sc. (Microbiology)		
	Semeste	r: 4 Date: 26/04/2019	Time: 02:30 To 05:30	Iarks: 70	
	Instructio	ons:			
	(1) Use of Programmable calculator & any other electronic instrument is prohibited.				
	(2) Instructions written on main answer book are strictly to be obeyed.				
	(3)	Draw neat diagrams and figures	s (if necessary) at right places.		
	(4)	Assume suitable data if needed.			
Q-1		Attempt the following quest	ions:	(14)	
	a)	Define chemostat.			
	b)	Define intercalating agents.			
	c)	Name any one detergent is use	ed for cell disruption.		
	d)	Define trace element.			
	e)	Expand EtBr.			
	f)	Define inducer.			
	g)	Define sedimentation rate.			
	h)	Write the name of any one pro-	otein degrading enzyme.		
	i)	Define flocculation.			
	j)	Define sterilization.			
	k)	Define intracellular product.			
	l)	Define mutation.			
		Define substrate.			
	n)		0		
Atte	mpt any	four questions from Q-2 to Q-	-8		
Q-2		Attempt all questions		(14)	
	a)		s in sterilization of fermentation media.	(7)	
	b)	Explain the production and pu	urification of vitamin B $_{12}$.	(7)	
Q-3		Attempt all questions		(14)	
	a)	Discuss in detail different typ	00	(7)	
	b)	Write notes on different chem	nical methods of cell disruption.	(7)	
Q-4		Attempt all questions		(14)	
	a) b)	• •	e for microbial production of ethanol at larg cessing? Describe biotechnological met		
)	separation and purification of	•		



Q-5		Attempt all questions	(14)	
	a)	Write an essay on nutritional value of single cell protein.	(7)	
	b)	•		
Q-6		Attempt all questions		
-	a)	Give a detailed account of batch culture and microbial kinetics in batch culture.	(7)	
	b)	Write in detail on the medium, reactor and process in the optimization of a fermentation process.	(7)	
Q-7		Attempt all questions	(14)	
	a)	Giving example and discuss the structured model in fermentation.	(7)	
	b)	Discuss the design and construction of Stirred Tank Reactor.	(7)	
Q-8		Attempt all questions		
C C	a)	Discuss the important parameters that are required to be monitored and controlled in a fermentation process which would consistently produce quality products.	(14) (7)	
	b)	Discuss in detail batch and fed batch cultivation of microorganisms.	(7)	

