Seat 1	No.: _	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
Suhi	ect c	SEMESTER- 3 EXAMINATION – WINTER 2012 ode: 131302 Date: 10/01/2013	
•		Name: Environmental Microbiology	
•		30 AM – 01:00 PM Total Marks: 70	
Instr	uctio	ons:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Differentiate between: Prokaryotic and Eukaryotic Cell, giving at least six point of difference.	06
	(h)	What is pure culture? Enlist and explain all the four techniques for isolation of	08
	( <b>D</b> )	pure culture.	00
Q.2	(a)	What are physical agents? Enlist and explain any two physical agents for control	07
		of microbes.	
	<b>(b)</b>	Draw a neat sketch of bacterial cell and explain its different parts.  OR	07
	<b>(b)</b>	Explain the types of viruses with sketches.	07
Q.3	(a)	Define the following terms giving applications	08
		(i) Sterilization	
		(ii) Sanitizer	
		(iii) Pasteurization (iv)Disinfection	
	<b>(b)</b>	Write a note on use of Chlorine and chlorine compounds for disinfection.	06
	()	OR	
Q.3	(a)	Enlist and explain the factors affecting the antimicrobial action.	07
	<b>(b)</b>	Enlist the mode of actions of antimicrobial agents and explain any one in detail	07
Q.4	(a)	Explain the classification of bacteria based on shape and nutritional requirement.	07
	<b>(b)</b>	Give the clear difference between Optical (light) microscope and electron	07
		microscope. With the help of neat diagram, explain the working principle of	
		student (bright field) microscope.	
Q.4	(a)	OR What is the rele of class in environment? Explain its haneficial and harmful	07
	(a)	What is the role of algae in environment? Explain its beneficial and harmful effects.	07
	(b)	Give the classification of protozoa and explain any one type in detail.	07
Q.5	(a)	Explain the procedure to perform the Presumptive Test to estimate the MPN of	07
		Water. Highlight the importance of MPN test in drinking water.	
	<b>(b)</b>	Write a note on Importance of Microbiology in Environmental Engg.	07
		OR	

Write down the symptoms, causative agents, prevention and treatment of any

Q.5

two of the following: (1) Typhoid

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- (2) Cholera
- (3) Hepatitis