.

Enrollment No:_____

PARUL UNIVERSITY FACULTY OF APPLIED SCIENCE

B.Sc./IMSc,Winter 2017-18 Examination

Semester:	3	Date: 23/12/2017	Date: 23/12/2017 Time: 10:30 am to 1:00 pm	
Subject C	ode: 11101201	Time: 10:30 am to 1:00 p		
Subject N	ame: Microbial genetics	Total Marks: 60		
Instructio	ns:			
1. All ques	stions are compulsory.			
2. Figures	to the right indicate full marks.			
3. Make su	itable assumptions wherever necessary.			
4. Start net	w question on new page.			
Q.1. A)	Essay type/ Brief note.		(08)	
	(a) Describe in detail bacterial transformation with emphasis on Griffith's experiment.			
	(b) Explain in detail lactose operon.			
Q.1. B)	Answer the following questions (Any two	0)		
	(a) Short note/ Brief note		(04)	
	1. Brief note on Transposons.			
	2. Short note on artificial competence.			
	(b) Short note on ara operon.		(04)	
	(c) Short note on yeast two hybrid system.		(04)	
Q.2. A)	Answer the following questions.			
	(a) Short note/ Brief note.		(04)	
	1 is the transfer of DNA	A from one bacterium to another via bacteriophage.		
	2. Conjugation between F+ and F- cell	results in		
	(b) Short note on test of allelism		(04)	
Q.2. B)	Answer the following questions (Any tw	(0)		
	(a) Short note/ Multiple choice questions.			
	1. The uptake of DNA fragment from surrounding by a bacterium is termed			
	a. Transformation	b. Conjugation		
	c. Recombination	d. Transduction		
	2. Which of the following are types of t	transduction		
	a. Generalised	b. Specialized		
	c. Tranformation	d. Both a & b		
	3. When tryptophan is present in the en	vironment of <i>E. coli</i> , the tryptophan binds to the		
	a. trp operon	b. trp promoter		
	c. trp operator	d. trp repressor		
	(b) Define Hfr, F+ and F' cells.		(03)	
	(c) Parasexual cycle		(03)	
Q.3. A)	Essay type/ Brief note (4x2) (Each of 04	marks)	(08)	
	(a) Explain the experiment that confirms that "physical contact" is essential between the cell for			
	gene transfer through conjugation.			
	(b) Repression mechanism in bacteriophag	ges		
Q.3. B)	Answer the following questions (Any two)			
	(a) Short note/ Brief note $(2x2)$ / Schematic	cally label the figures $(2x2)$ (Each of 02 marks)	(04)	
	1. Insertion sequences			
	2. Mechanism of attenuation of trp oper	ron		
	(b) Short note on lytic cycle		(04)	
	(c) Short note on transformation		(04)	

Q.4. A)	Answer the following questions.			
	(a) Short note/ Brief note $(2x2)$ / Fill in the bl	lanks. (Each of 02 marks)	(04)	
	 During Griffith experiment of mice, it dies when he injectedstrain. Introduction of DNA into cell by exposing them to high voltage electic pulse is 			
	(b) Describe life cycle of yeast.		(04)	
Q.4. B)	4. B) Answer the following questions (Any two)			
	(a) Short note/ Multiple choice questions.	(Each of 01 marks)	(03)	
	1. Bacterial conjugation is transfer of	f genetic material.		
	a. Bidirectional	b. Unidirectional		
	c. Both a and b	d. None of the above.		
	2. CAP in Lac operon is an example of			
	a. Positive regulator	b. Negative regulator		
	c. Constitutive expression	d. Attenuation		
	3. Transfer of genetic material between bacteria through cell to cell contact is called			
	a. Conjugation	b. Transformation		
	c. Transduction	d. Transposon		
	(b) Short note on lysogenic cycle.		(03)	
	(c) Short note on gene conversion.		(03)	