LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **BIOTECHNOLOGY**

FIRST SEMESTER – **NOVEMBER 2023**

PBT1MC03 – APPLIED MICROBIOLOGY

Date: 06-11-2023 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

	SECTION A – K1 (CO1)	
	Answer ALL the questions	**(5 x 1 = 5)**
1	**Choose the best option**	
a)	Which of the following is not a biofertilizer i) Mycorrhiza ii) Rhizobium iii) Agrobacterium iv) Nostoc	
b)	Which of the following is not a waterborne disease? i)Cholera ii) Hepatitis A iii) Giardia iv) HIV	
c)	Bacteria living in salt marshes are most likely which of the following? i) Acidophiles ii) barophiles iii) halotolerant iv) thermophiles	
d)	In which phase would you expect to observe no increase in number of bacterial cells? i) death phase ii) lag phase iii) log phase iv) stationary phase	
e)	A fully formed infectious viral particle is called _____. i) Virion ii) Viriod iii) Capsid iv) Virusoid	
	SECTION A – K2 (CO1)	
	Answer ALL the questions	**(5 x 1 = 5)**
2	**Answer in one or two sentences**	
a)	What are bio-weedicides?	
b)	What are aeroallergens?	
c)	List any four characteristics of extermophiles.	
d)	Which group of microorganism require high pressure for growth?	
e)	What are the types of MDR-TB?	
	SECTION B – K3 (CO2)	
	Answer any THREE of the following	**(3 x 10 = 30)**
3	Comment on the intrinsic and extrinsic factors that affects air flora.	
4	Discuss the chemical method of water treatment.	
5	Illustrate the functioning of optical tweezers.	
6	Explain the different phases of hemorrhagic fever.	
7	Recommend the analytical methods for identification of secondary metabolites.	
	SECTION C – K4 (CO3)	
	Answer any TWO of the following	**(2 x 12.5 = 25)**
8	Discuss the types and applications of biofertilisers.	
9	Explain global gene expression profiling method.	
10	Write on the biological cycling of nutrients from sedimentary rocks.	
11	Illustrate the role of retroviral genes in causing infection. Explain the enzymes and genes involved.	

	SECTION D – K5 (CO4)	
	Answer any ONE of the following	**(1 x 15 = 15)**
12	Give a detail account of the classification of water borne diseases with examples.	
13	What are biopesticides? Explain its types.	
	SECTION E – K6 (CO5)	
	Answer any ONE of the following	**(1 x 20 = 20)**
14	Classify *insitu* and *exsitu* bioremediation and explain	
15	Explain the various methods adopted in water treatment.	
