

MODEL QUESTIONN PAPER					
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)					
B.E. in Biotechnology					
Course Name: MICROBIOLOGY			Course code: BBT304		
Third Semester BE Degree Examination Jan/Feb 2024					
Time : 3 hours			Max marks: 100		
Note : answer any FIVE full questions, choosing ONE full questions from each module					
<u>Module-1</u>					
1	a.	Describe the History and Scope of Microbiology	CO1	L1	10
	b.	Define the Bacterial classification based on Nutrition, Temperature.	CO1	L2	6
	c.	Explain the three domains classified by Carl Woese	CO1	L2	4
or					
2	a.	Write in-detail different types of reproduction in fungi	CO1	L1	10
	b.	Explain the importance of Beragy's Mannual in bacterial taxonomy.	CO1	L2	6
	c.	Describe prions and their unique characteristics	CO1	L2	4
<u>Module-2</u>					
3	a.	Explain the principle and Construction of transmission Electron Microscope with neat diagram.	CO2	L1	10
	b.	Write the concepts of magnification and numerical aperture	CO2	L2	6
	c.	Discuss the principle and applications of micrometry.	CO2	L2	4
or					
4	a.	Define differential staining? Explain the any two methods of differential Staining methods.	CO2	L1	10
	b.	What is Culture Media? Explain the types of Culture Media based on nutritional factors.	CO2	L2	6
	c.	Distinguish between the Spread Plate Method and Standard Plate Count Method.	CO2	L2	4
<u>Module-3</u>					
5	a.	Write different factor affecting bacterial growth	CO3	L2	10
	b.	Write steps involved in the Embden–Meyerhof–Parnas (EMP) pathway	CO3	L3	6
	c.	Define sterilization. Explain the use of moist heat to control microorganisms.	CO3	L3	4
Or					
6	a.	What is bacterial Growth? Discuss the factors affecting the microbial Growth.	CO3	L2	10
	b.	Describe phases of microbial growth in batch culture.	CO3	L3	6
	c.	What is the difference between antiseptic and disinfectant?	CO3	L3	4
<u>Module-4</u>					
7	a.	What are respiratory viruses? Write signs, symptoms and treatment of Covid19?	CO4	L3	10

	b.	What is the gut microbiome? Outline the role of microbiota in host ?	CO4	L4	6
	c.	Leishmaniasis	CO4	L4	4
Or					
8	a.	Write the Symptoms, Causes, Treatment and Prevention of Hepatitis	CO4	L3	10
	b.	causative agent of typhoid fever ? Symptoms of Typhoid	CO4	L4	6
	c.	Malaria	CO4	L4	4
Module-5					
9	a.	What are Biofertilizers? Categorize on the Basis of Microorganisms	CO5	L4	10
	b.	What is a Biogeochemical Cycle? Write the Nitrogen Cycle	CO5	L3	6
	c.	VAM	CO5	L3	4
Or					
10	a.	Illustrate various Air sampling techniques and its importance	CO5	L4	10
	b.	Explain the various processes involved in the treatment of Wastewater. Add a note on the significance of microorganisms.	CO5	L3	6
	c.	Define Soil fertility? Illustrate its importance of soil fertility.	CO5	L3	4

CO1: To understand the history and scope of microbiology

CO2: To learn different techniques of microscopy

CO3: To learn the microbial metabolism

CO4: To learn the respiratory microbes caused diseases