

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019**

**Subject Code:2143503**

**Date:17/05/2019**

**Subject Name: Environmental Bioscience**

**Time:02:30 PM TO 05:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		<b>MARKS</b>
<b>Q.1</b>	<b>(a)</b> Define Environmental Microbiology. Enlist its application in environmental Engineering.	<b>03</b>
	<b>(b)</b> Discuss historical aspects of microbiology.	<b>04</b>
	<b>(c)</b> Define Nutrient agar & broth. Discuss the procedure to prepare Nutrient agar with all requirement in laboratory.	<b>07</b>
<b>Q.2</b>	<b>(a)</b> Define: Cells, Eukaryotes, Aerobic bacteria	<b>03</b>
	<b>(b)</b> Introduce Protozoa. Describe its role in environment.	<b>04</b>
	<b>(c)</b> Briefly discuss microbial growth curve with suitable diagram.	<b>07</b>
	<b>OR</b>	
	<b>(c)</b> Describe the classification of microorganism.	<b>07</b>
<b>Q.3</b>	<b>(a)</b> Write down the function cell membrane and ER.	<b>03</b>
	<b>(b)</b> Explain pour plate method with suitable diagram.	<b>04</b>
	<b>(c)</b> Classify bacteria on the basis of shape & its growth requirements.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	<b>(a)</b> Write down the function ribosomes and mitochondria.	<b>03</b>
	<b>(b)</b> Explain streak plate method with suitable diagram.	<b>04</b>
	<b>(c)</b> Define Culture media. Briefly discuss its classification.	<b>07</b>
<b>Q.4</b>	<b>(a)</b> Explain the procedure of Autoclaving.	<b>03</b>
	<b>(b)</b> Introduce aerobic metabolism with its functions.	<b>04</b>
	<b>(c)</b> What are the characteristics of Algae? Describe the classification of Algae.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	<b>(a)</b> Introduce amino acid with its general structure.	<b>03</b>
	<b>(b)</b> Explain the structure of proteins.	<b>04</b>
	<b>(c)</b> Briefly describe microbial flora of soil.	<b>07</b>
<b>Q.5</b>	<b>(a)</b> Introduce nucleus with it functions.	<b>03</b>
	<b>(b)</b> Write a short note on Microbiology of air.	<b>04</b>
	<b>(c)</b> What is Microbial ecosystem? Briefly discuss positive association among soil microorganism.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	<b>(a)</b> Write a short note on Enzymes.	<b>03</b>
	<b>(b)</b> Introduce carbohydrate. Enlist its functions.	<b>04</b>
	<b>(c)</b> What do you understand by biogeochemical cycle? Explain Nitrogen cycle with suitable diagram.	<b>07</b>

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