



Reg. No.:

Name:

University of Kerala

First Semester FYUGP Degree Examination, December 2025

Discipline Specific Core Course

MICROBIOLOGY

UK1DSCMBY101 - Introduction to Microbial world

Academic Level: 100-199

2024 Admission onwards

Time: 1 Hour 30 Minutes(90 Mins.)

Max. Marks: 42

Part A. 6 Marks.Time:6 Minutes.(Cognitive Level:Remember(RE)/Understand(UN)) Objective Type. 1 Mark
Each.Answer all questions

Qn No.	Question	CL	CO
1	Name the gas produced during the leavening of bread.	RE	1
2	Name the chemical agent Joseph Lister introduced for antiseptic surgeries.	RE	2
3	Describe the morphological characteristics of <i>Staphylococcus</i> .	UN	3
4 is a commonly used selective medium for <i>E. coli</i> .	UN	4
5	Identify the protein subunits that collectively assemble to form the viral capsid.	UN	3
6	How do <i>Lactobacillus bulgaricus</i> and <i>Streptococcus thermophilus</i> contribute to yogurt making?	UN	1

Part B.8 Marks.Time:24 Minutes.(Cognitive Level:Understand(UN)/Apply(AP))Short Answer. 2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	Differentiate between motile and non-motile bacteria.	UN	3
8	Describe semi-solid media and mention one use.	UN	4
9	The experiments of Louis Pasteur convincingly disproved the spontaneous generation theory. Do you agree? Explain.	AP	2
10	How can mycorrhizal fungi help a farmer improve plant growth without chemical fertilizers?	AP	1

Part C. 28 Marks.Time:60 Minutes (Cognitive Level:Apply(AP)/Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer.7 marks each.Answer all 4 Questions choosing among options * within each question

Qn No.	Question	CL	CO
11	A)	AP	4, 4

Qn No.	Question	CL	CO
	<p>Demonstrate the importance of Laminar Air Flow and autoclave in microbiology lab safety and experimental reliability.</p> <p>OR</p> <p>B)</p> <p>You are working in a microbiology lab and are asked to isolate and identify specific bacteria from a mixed environmental sample. For each scenario below, determine which type of culture media you would choose (anaerobic, enriched, differential, selective, or enrichment), justify your choice based on the properties of the media, and provide a suitable example.</p>		
12	<p>A)</p> <p>Analyse the experiments and contributions of various scientists in disproving spontaneous generation theory.</p> <p>OR</p> <p>B)</p> <p>Analyse the historical development of microbiology by comparing the contributions of Anton van Leeuwenhoek, Louis Pasteur and Robert Koch.</p>	AN	2, 2
13	<p>A)</p> <p>Evaluate the importance of bacterial morphology and arrangement in identification and classification. Analyse with suitable examples</p> <p>OR</p> <p>B)</p> <p>Evaluate the morphological difference between <i>Aspergillus Penicillium</i> and <i>Rhizopus</i></p>	EV	3, 3
14	<p>A)</p> <p>Develop a comprehensive plan for preparing traditional fermented foods, including idli, curd, and appam. Specify the step-by-step preparation for each food, identify the microbes responsible for fermentation, and explain the health benefits.</p> <p>OR</p> <p>B)</p> <p>Create a flow chart showing how kitchen waste can be converted into biogas in a small biogas plant.</p>	CR	1, 1