

B.Sc. Semester - 3 (NEP-2020) Examination

OCT/NOV-2025

MIC: Applied Microbiology (Major-6)

Time: 2:00 Hours

Marks:50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1	1) Explain the neutral, beneficial, and harmful interactions among soil microorganisms.	(05)
	2) What is nitrogen fixation? Explain the role of Rhizobium in this process.	(05)
	OR	
Que.1	1) Name the major groups of plant pathogens and give one example each of fungal, bacterial, and viral plant diseases.	(05)
	2) Explain the role of biofertilizers, biopesticides, and biocontrol agents in sustainable agriculture.	(05)
Que.2	1) Explain the causes and types of microbial spoilage in canned foods.	(05)
	2) Explain the general principles and methods of food preservation.	(05)
	OR	
Que.2	1) What is AGMark? Mention its importance in food quality assurance.	(05)
	2) Describe the microbial flora commonly found on fresh foods.	(05)
Que.3	1) Describe any two methods used for microbial analysis of milk	(05)
	2) State the principles and methods used for preservation of milk.	(05)
	OR	
Que.3	1) Describe the normal microbial flora of milk and its significance.	(05)
	2) Discuss the causes and types of spoilage in milk and milk products.	(05)
		(05)
Que.4	1) Define pharmaceutical microbiology and state its importance in drug production.	(05)
	2) Explain the principle and purpose of sterility testing in pharmaceutical products.	(05)
	OR	(05)
Que.4	1) What is Good Laboratory Practice (GLP)? Explain its role in maintaining product quality.	(05)
	2) Write a short note on WHO certification and its role in global drug quality assurance.	(05)
Que.5	Write the short note on:	(10)
	1) Define rhizosphere and discuss the significance of microbial flora in it.	
	2) Write a short note on <i>Clostridium botulinum</i> and its toxin.	
	OR	
	1) Explain why milk is considered an excellent medium for microbial growth.	
	2) Define Total Quality Management (TQM) and describe its key principles in pharmaceutical industries.	
