

(12)

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST -2 EXAMINATION-MARCH 2026

M.Sc -4th Sem (Microbiology)

COURSE CODE(CREDITS): 21MS1MB412(3)

MAX. MARKS: 25

COURSE NAME: Plant &Agricultural Microbiology

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 1hr30 min

Note: a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

	Question	Marks
Q1	Why are plants considered cost-effective bioreactors for pharmaceutical production? Explain with examples. Discuss how plant molecular farming can contribute to global health and affordable medicines	2.5 +2.5
Q2	A biotechnology company develops a plant-based edible vaccine using transgenic tomatoes. a) Explain the steps involved in developing this vaccine. b) Discuss the advantages and challenges of edible vaccines.	2.5+2.5
Q3	Analyze the risks and ethical considerations of plant molecular farming based on GM technology. Elaborate on the biosafety measures and regulatory frameworks governing its application.	2.5+2.5
Q4.	A farmer reports low crop yield despite using chemical fertilizers. Propose a biofertilizer-based solution and justify your approach. Evaluate the role of biofertilizers in climate-resilient agriculture.	2.5+2.5
Q5	Which key components are required for controlling crop diseases by using Integrated Pest Management Program and which cultural practises should be employed to control the diseases and insect pests?	2.5+2.5