

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST -2 EXAMINATION- APRIL-2025

M.Tech -2<sup>nd</sup> Sem (BT)

COURSE CODE(CREDITS):21MIWBT231(3)

MAX. MARKS: 25

COURSE NAME: Plant Biotechnology

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 1 Hour30min

*Note: a) All questions are compulsory.*

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

	Question	Marks
Q1	Which is the most effective and rapid methodology for transferring the gene of interest for terpenoid production from fungus to <i>Picrorhiza</i> sp.? Explain the methodology of transformation and selection of transformed plants having high concentrations of the terpenoids.	5
Q2	Conceptualize a methodology of molecular farming approach for the production of Avidin in transgenic banana. Do you think there are chances of transgene pollution? What could be the possible solutions?	2+2+2
Q3.	Explain the following with suitable reasons: A. Spartan Corn-III is one of the sustainable solution for biofuels B. Phagemids vectors are significant in transgenic plant production	6
Q4	Which is the most effective and rapid methodology for the production of edible vaccines ? How you can produce human vaccine for hepatitis-B in potato? What are the drawbacks and benefits of edible vaccines?	5
Q5	How you can produce virus resistant plant of maize? Which mechanism of action you would like to target for its production and why?	3