

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST -2 EXAMINATION- APRIL-2024

M.Tech -2nd Sem (BT)

COURSE CODE(CREDITS):21MIWBT231(3)

MAX. MARKS: 25

COURSE NAME: Plant Biotechnology

COURSE INSTRUCTOR: Dr Hemant Sood

MAX. TIME: 1Hr30 min.

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. How can you develop transgenic Canola having bar gene by using *Agrobacterium tumefaciens*? Explain the mechanism of genetic transformation of the same by conceptualizing appropriate vector type and marker genes for the development of transgenic Canola. (3.5+ 3.5)

Q2. Conceptualize a methodology of biopharming for the production of Avidin in transgenic banana. Do you think there are chances of transgene pollution? What could be the possible solutions? (3 + 2+2)

Q3. Write short notes with examples of the following:

- A. Spartan Corn III B. Artificial Plasmid vector
C. Binary vector D. Transplastomic plants (2+2+2+2)

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? (3)