

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B.Tech-5Th Semester (BT)

COURSE CODE (CREDITS): 21B1WBT531(3)

MAX. MARKS: 15

COURSE NAME: Industrial Plant Tissue Culture

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 1 Hour

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

Q1. How upscaling of hairy roots of *Picrorhiza* is carried out? Explain the methodology for the large-scale production of metabolites from the hairy root. (3)CO1

Q2. Conceptualize the methodology for the production of somatic embryos of the Neem plant. Explain the procedure and measures to be taken for expected bottlenecks. (3) CO1

Q3. Which technology would be utilized for the production of somaclonal variants of the high content genotype of *Swertia*? Explain the steps of your developed protocol. (3) CO2

Q4. Explain the followings: CO1

- a. How elimination of contaminants can be carried out in plants during micropropagation?
- b. How artificial seeds are beneficial in usage for developing plants and contribute to crop improvement?
- c. How you can produce clonal plants of Orchids via the suspension culture technique? (6)