

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

B.Tech-5<sup>th</sup> Semester (BT)

COURSE CODE(CREDITS):21B1WBT531(03)

MAX. MARKS: 15

COURSE NAME: Industrial Plant Tissue Culture

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 1 Hour

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

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

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Q1. One apple bud proliferates into 5 shoots by the optimized protocol of Maheshwari et al., 2020. For the production of 1000 plantlets in 2 months, which strategy would you like to apply for the production of the same. Explain the complete methodology. (4) (CO1&2)

Q2. How can you produce 300 shoots of lily plants under the bioreactor setup from a single bulblet? Design the protocol and mention all desired probes and inputs required for their growth and development. (4) (CO3)

Q3. How you can equip your lab for carrying out Industrial Plant Tissue Culture for different medicinal plants? (3) (CO1)

Q4. Which Industrial Units in India and Overseas are working for large scale production of Plants and their products? Name two of each and their respective products. (2) (CO2)

Q5. How somatic embryogenesis is the best alternative in crop improvement strategy rather than zygotic embryogenesis? (2) (CO1)