

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

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

COURSE CODE(CREDITS):21B1WBT531(03)

MAX. MARKS: 35

COURSE NAME: Industrial Plant Tissue Culture

COURSE INSTRUCTORS: Dr Hemant Sood

MAX. TIME: 2Hrs.

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

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

Q.No	Question	CO	Marks
Q1	How volatile oils are biosynthesized in plant sources? b) What are the different commercial classifications of it? c) How you can extract these oils from plant and quantify their content?	CO1&2	6
Q2	Explain the followings with examples: a. Applications of plant stem cells b. Ethical concerns for biotech products c. Biotransformation for medicinal compound production d. Advocative concerns for the release of GM crops e. Technical significance of HPLC	CO3	10
Q3	For the production of 1gm of taxol 1kg of the bark of <i>Taxus sp.</i> is required and it may take 3-4 year of the time period to get this done. Explain alternative methodologies for the production of taxol with all essential descriptions.	CO4	6
Q4	How plant stem cells are different from callus cells? Explain along with diagram representing their origin and mode of development showing distinction in their classifications.	CO6	7
Q5	What is the significance of soilless growth of commercial plants? What are the modes of establishing hydroponic cultures systems.? Draw diagram of the most appropriate hydroponic method for Lettuce with other modifications on your innovativative thoughts.	CO5	6