

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST-3(2019)

B.Tech Biotechnology

COURSE TITLE: Industrial Plant Tissue Culture

MAX.MARKS:35

COURSE CODE: 10B1WBT725

TIME: 2HRS

Q1. What are the threats for developing transgenic crops? Which ethical issues are needed to be considered for its transplantation? How you can take care and follow biosafety norms for the same?(7.0) (CO4).

Q2. Distinguish between Ti and Ri plasmids. Explain the mode of mechanism for the transfer of desired gene from bacterial to plant cell and how you can verify the genetic transformation in the host plant cells.(7)(CO5)

Q3. What are the hydroponic systems utilized for the commercial growth of plants? What are the modes of carrying out plant growth? Explain with diagram? 7)CO3

Q4. How secondary metabolites are biosynthesized in plant cells? Explain the pathways for the synthesis of terpenoids. What are the medicinal usages of terpenoids? Mention along with plants source. 7)CO6

Q5. Mention the components of Bioreactor with diagram. What are the different ways of working and which can be utilized for commercial hairy root culture? Explain. (7). CO2&CO1