

Dr Hemant Sood

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

TEST-2(2019)

B.Tech Biotechnology

COURSE TITLE: Industrial Plant Tissue Culture

MAX.MARKS:25

COURSE CODE: 10B1WBT725

TIME: 1 hr 30 Min

Q1. How secondary metabolites are produced through Plant tissue culture technologies? What factors are playing major role in biosynthesis and accumulation of secondary metabolites? Explain with examples. (5.0) (CO3).

Q2. Virus free *Dendrobium* is of high demand in market. Which technique you would like to use for its production and why? Explain the complete methodology for the cost effective and large scale production of the same. (6) (CO2)

Q3. Write short notes:

- a) Hairy roots for the secondary metabolite production
- b) Bioreactor for secondary metabolite production
- c) Direct DNA delivery system pros and cons (3x3 =9) CO1 & CO3

Q4. How crop improvement is carried out for inducing disease resistance and high yield characteristics from two different species of strawberry in plants? Explain the complete methodology along with diagrammatic representation. (5.0). CO4