

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION- JUNE -2016

B.Tech Biotech /BTDD 4th Semester

COURSE CODE: 10B11BT412

MAX. MARKS: 35

COURSE NAME: Cell Culture Technology

COURSE CREDITS: 04

MAX. TIME: 2 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Gene R1 is responsible for the production of cannabidiol . How you can produce a transgenic plant by inserting this gene for the enhanced production of it.? Give complete methodology for the same. (5.5)

Q2. How you would like to produce antioxidant (resveratrol) from the plant of *Rubus* sp.? Explain the technique followed by you and why? (5.5)

Q3. What are somaclonal variations and what are the causes for the formation of it ? (4)

Q4. Write in brief of the followings:

- a) Shoot apical meristem
- b) Phenols
- c) Electro fusion of protoplast
- d) Hairy root
- e) Zone concept of shoot apical meristem

5x2=10

Q5. Explain the prerequisites before somatic hybridization is to be carried out. Why are those important for the production of somatic hybrids? (5)

Q6. What are secondary metabolites? How they are biosynthesized in plant cells ? Classify with examples of commercially important compounds only.(5)