

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION- April -2019

B.Tech 8th, Semester

COURSE CODE: 14I1WBT531

MAX. MARKS: 25

COURSE NAME: Plant Biotechnology

MAX. TIME: 1 Hrs 30 Min.

COURSE CREDITS: 03

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

Q.1

1x5 = 5 (CO I, CO II)

1. Two general strategies advocated for protection from ROS are 1 \_\_\_\_\_ 2 \_\_\_\_\_
2. Mention any four reasons which warrant removal of antibiotic resistance SMG from transgenic plants.
3. What three types of damages caused to plant cells by water deficit stress?
4. Enlist methods used to improve co-transformation for marker removal.
5. Why avoid strategy of producing marker free plants, is theoretically possible, but highly demanding.

Q.2

2x3=6 (CO III, CO V)

- a. Why development of abiotic stress tolerant crop plants is gaining importance?
- b. Write a short note on any one of following: i) Abiotic stress tolerance by production of Glycine betaine ii) Alternative approaches to manipulating salt tolerance ii) Alternative Approaches to Cold Stress

Q.3

2x3=6 (CO III, CO V)

- a. How difference in C+C content of transgene and target plant can result in lower expression of transgene?
- b. Write brief note on: Tetracycline regulated promoters, or Rice actin promoter.

Q.4

(CO I, CO V)

- a. Enlist the main classes of strategies reported to develop marker free transgenic plants with their guiding principles. 2
- b. Write detailed note of on following. I) Phosphomannose isomerase (*pmi*) gene and UDP-glucose:galactose-1-phosphate uridyl transferase I II) Site-specific recombination-mediated SMG removal including latest developments in this area. 6