

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

M.Sc.-1st Semester (BT)

COURSE CODE(CREDITS): 20MS1BT113 (2)

MAX. MARKS: 15

COURSE NAME: Plant &Animal Biotechnology

COURSE INSTRUCTORS: Dr. Udaybanu, M & Dr. Hemant Sood

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

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

1. For the production of 500 clones of orchids from intermodal segments, which technology you would like to apply. Design a complete strategy for the production of hardened plants and explain the benefits of that technology. [2+2 Marks]
2. Explain the followings: [1+1+1.5 Marks]
 - a. Why embryo cultures are best alternatives for seed cultures?
 - b. Why are protoplasts required for somatic hybridization?
 - c. How are Guha and Maheswari known for their contribution in *Datura* studies?
3. What is the role of inorganics salts and pH indicator in a basal media for animal cell lines [2 Marks]
4. Demonstrate the importance of population doubling time from ideal growth curve for cells in culture. [2 Marks]
5. Describe the step wise protocol for cryopreservation of cells and explain the role of cryoprotectant with an example. [3 Marks]