

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATIONS-2022

B.Tech-IV Semester (BT)

COURSE CODE: Cell Biology and Culture Technologies

MAX. MARKS: 15

COURSE NAME: 18B11BT411

COURSE CREDITS: 04

MAX. TIME: 1 Hour

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*Note: All questions are compulsory. Marks are indicated against each question in square brackets.*

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Q1. How Plant Tissue Culture would be utilized for crop improvement in horticulture and forestry plant species? Cite some examples [2.5 Marks] (CO1)

Q2. Plant tissue culture media is required for in vitro organogenesis via axillary budding for micropropagation of *Dendrobium* plants. What could be the desired components of the media? Explain with justification. [2.5 Marks] (CO2)

Q3. Explain the steps for carrying out micropropagation of Apple root stock M11. How you can develop clones 500 in numbers for the same in 3months duration of time? [2.5 Marks] (CO1 & 2)

Q4. How do lipid molecules in the cell membranes execute amphipathic property? Is Cholesterol amphipathic? Explain [2 Marks] (CO1 & 2)

Q5. Wedge shaped and Cylinder shaped phospholipid molecules has different packing arrangement in aqueous environment. Explain. [1 Mark] (CO1 & 2)

Q6. Membrane lipids are essential component of cell signaling. Justify, the involvement of Phosphatidylinositol in cellular signaling processes. [2 Marks] (CO1 & 2)

Q7. Animals exploit the phospholipid asymmetry of their plasma membranes to distinguish between live and dead cells. Explain with an example. [2.5 Marks] (CO1 & 2)