JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2025

B.Tech-4 Semester (BT)

COURSE CODE: Cell Biology and Culture Technology (4) MAX. MARKS: 25

COURSE NAME: 18B11BT411

COURSE Coordinator: Dr Hemant /Dr Udaybanu MAX. TIME: 1 Hour30 min

Note: : *(a) All questions are compulsory.*

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

Q.No	Question	CO	Marks
Q1	Assess the function and importance of amplifier protein and transducer protein in signal transduction. When would you use the term signalling cascade?	CO1	3
Q2	What is the primary characteristic that distinguishes necrosis from other forms of cell death? Differentiate with a neat diagram the morphological features.	CO1	3
Q3	Evaluate the role of following molecules in the function of microtubules: a. Stathmin b. Catastrophiin	CO2	4
Q4	Compare the effects of thymosin and profilin on actin polymerization. With a neat diagram explain their function	CO2	2.5
Q5	How can callus culture contribute to the conservation of endangered plant species? Design the metholodogy for the prorogation of Atis plants by using indirect organogenesis.	CO3 &4	3
Q6	How can suspension cultures be scaled up for commercial production of plant cells? Mention the type of suspension culture you are going to establish for the *Swertia* sp.and upscale in which type of system.	CO3 &4	3.5
Q7	Explain why and how: a. Plant cell viability is required to be checked in suspension cultures	CO 2&3	6