

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- 2025

B.Tech-VI Semester (BT)

COURSE CODE (CREDITS): 20B1WBT631 (03)

MAX. MARKS: 25

COURSE NAME: Manufacturing Process and Industrial Products

COURSE INSTRUCTOR: Dr. Garlapati Vijay Kumar

MAX. TIME: 1 Hour 30 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	Summarize the different parameters needed to take care while cultivating different cells under suspension cultures? Write about the four common elements that have influence on the success of large-scale suspension cultures?	I&II	4
Q2	Depict the standard design parameters for a microbial reactor vessel with included typical values?	II&III	3
Q3	Discuss the four drivers for the future of Industrial fermentation and mention the six facts that are the main hurdles in the current scenario for replacement of the petrochemical-based industrial sector with the bio-based biotechnological processes? (4 M)	II	4
Q4	What are the common replacements for lab-scale operations of "Dialysis in bags", "Electrophoresis" and "Cell disruption by sonication" on "Pilot/Large-scale? Write the laws and related formulas associated with "Centrifugation" and "Adsorption" with the explanation of different terms?	II	5
Q5	Describe the familiar problems encountered in designing plant cell reactors? Distinguish kinetic resolution with dynamic kinetic resolution of racemic mixture?	IV	4
Q6	Write about the following one's (a) Cultivation of hairy root cultures in Bioreactor (2.5 M) (b) Bioreactors for Stem cell cultivation (2.5 M)	III	5