JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2024

B.Tech-VI Semester (BT)

COURSE CODE (CREDITS): 20B1WBT631 (03) **MAX. MARKS:** 25

COURSE NAME: Manufacturing Processes and Industrial Products

COURSE INSTRUCTOR: Dr. Garlapati Vijay Kumar **MAX. TIME:** 1 Hour 30 Minutes

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

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

1. What are the different parameters need to consider while implementing the suspension cultures in industrial scale? Write about the four common elements that can influence the success of a large-scale suspension culture? **(CO III) (4 M)**

2. What are the different selected Guidelines for Process Development of fermented bioproducts? What are the substitutions of lab scale operations of "Cell disruption by sonication", "Electrophoresis" and "solid-phase extraction" on scale up? **(CO I & CO II) (4 M)**

3. What are the familiar problems encountered during handling of plant cells and organs? Discuss briefly about the calculation of time Constants in plant-cell reactors? **(CO III) (4 M)**

4. Write about the Lipase-catalyzed reactions for optically pure compounds? How to find out the "ee value" and "E-value" in case of kinetic resolution? **(CO IV) (4 M)**

5. Summarize the following one's **(CO III & CO IV) (4 M)**

   (a) Information furnished through BRENDA and KEGG Databases (2 M)

   (b) Law and mathematical notation of "Centrifugation" and "Adsorption" (2 M)

6. Write about the following one's **(CO II & CO III) (5 M)**

   (a) Standard design parameters of microbial bioreactor with typical values (2.5 M)

   (b) Scaling up considerations with opportunities, balances and impact on fermentation (2.5 M)

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