

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-VI Semester (BT)

COURSE CODE (CREDITS): 18B11BT611 (04)

MAX. MARKS: 15

COURSE NAME: Downstream Processing

COURSE INSTRUCTORS: Dr. Saurabh Bansal

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.*

[CO-1]

1. Why downstream processing should be done in minimum number of steps? [1]
2. Three downstream purification steps are used to recover the product. The efficiency of product recovery in each step is 90, 90, 95% respectively. What will be the overall product loss in %? [1]
3. What will be the depreciated value of a fermenter after 5 years which was purchased recently at Rs. 5,00,000 (five Lakhs)? [1]
4. How the intended use of products does affect the product quality and its cost? [1]

[CO-2]

5. Differentiate between the downstream processing of intracellular and extracellular products. [2]
6. a) Which enzyme will you lyse the cell wall of a fungal cell? [1]  
b) Why removal of nucleic acid is important before further processing of the cell lysate? [1]

[CO-3]

7. What are the different forces applying on a sedimenting particles? Explain with a suitable diagram. [2]
8. How much a centrifugal force will be applied if a sample is centrifuged at a 5000 RPM in a centrifuge with a diameter of 20 cm? [2]
9. What are the importance of filter aid in a filtration process? Give two examples of filter aid which can be used in filtration. [3]