

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2023

M.Sc-III Semester (Biotechnology)

COURSE CODE (CREDITS): 20MS1BT311 (03)

MAX. MARKS: 25

COURSE NAME: Bioprocess Engineering and Technology

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.*

- Q1. What is the main aspect which differentiates the cost of citric acid with monoclonal antibody? Discuss in detail about the generalized stages involved in the particular aspect? What are the chemical composition of GFC matrices "Sephadex" & "Sephacryl HR"? (CO I & II & III) (5 M)
- Q2. Write in detail about the affinity chromatography and classify the different types of affinity chromatography? Discuss about the different ligands used as a part of AC with suitable examples? (CO III) (5 M)
- Q3. What are the advantages and Disadvantages of Enzyme immobilization? Discuss in detail about the different characteristics parameters of Immobilized enzymes? (CO IV) (5 M)
- Q4. Differentiate the air-lift reactor with fluidized bed reactor in terms of configuration and operation? (CO III) (4 M)
- Q5. Write about the following one's (CO III & CO IV)
- A. "Damkohler Number and Thiele modulus importance in enzyme immobilization (3 M)
- B. Depict the steps involved in the oxygen transfer from an air bubble to microbial cell with a neat sketch (3 M)

@@@@@@@@@@@@@@@@ ALL THE BEST @@@@@@@@@@@@@@@@@@