

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

M.Tech-II Semester (BT)

COURSE CODE (CREDITS): 14M11BT211(3-0-0)

MAX. MARKS: 25

COURSE NAME: INDUSTRIAL BIOTECHNOLOGY

COURSE INSTRUCTORS: Dr. Garlapati Vijay Kumar

MAX. TIME: 1 Hour 30 Min

*Note: All questions are compulsory. Marks are indicated against each question in square brackets.*

- Q1.** How the bioprocessing varies with the Bulk chemical & biopharmaceutical, explain with a neat flowchart/figure in terms of design criteria, USP & DSP approaches? **(5 M)(CO II)**
- Q2.** What are the advantages and disadvantages of choosing CHO/BHK cells for biopharmaceuticals production? What are the factors need to consider while selecting bioreactor and substrate feeding under biopharmaceutical's USP? **(4 M) (CO II & CO III)**
- Q3.** What are the three kind of activities need to do under characterization of Mab's and explain the each activity features in detail? With a neat flowchart summarize the different steps under Mab's recovery process by explaining the each step objective? **(4 M) (CO III)**
- Q4.** Explain in detail about choosing Protein A chromatography as the 1<sup>st</sup> choice rather than IEC and HIC? Write about the bioaffinity ligands used as an alternative to the Protein A chromatography by including the source and affinity characteristics? **(4 M) (CO III)**
- Q5.** Discuss in detail about the important characteristics of microbes need to consider while going to utilized for Industrial biotechnology? **(4 M) (CO II)**
- Q6.** How the Industrial biotechnology play a role in the societal improvement? Summarize briefly about the different building blocks of Industrial biotechnology and its component activities? **(4 M) (CO I and CO II)**

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