

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MSC
BRANCH: BT

SEMESTER : III
SESSION : MO/19

SUBJECT: BT509 DOWNSTREAM PROCESSING

TIME: 3 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Explain various mechanical methods of cell disruption. [5]
Q.1(b) Write the two major gradient centrifugation methods. [5]
- Q.2(a) Explain the process and advantages of Super critical fluid extraction. [5]
Q.2(b) Write adsorption isotherm equations. Justify the use of ammonium sulphate for precipitation of protein in salting out method. [5]
- Q.3(a) Write the basic principle and application of Ion exchange chromatography. [5]
Q.3(b) Describe HPLC with its applications. [5]
- Q.4(a) Explain the mechanism of transport in MF system. [5]
Q.4(b) Briefly describe the filtration modules used in biotechnology. [5]
- Q.5(a) Define various moisture contents with a suitable diagram. [5]
Q.5(b) Explain different industrial driers used with their application. [5]

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