

No. of Printed Pages : 03

Roll No.

E64

B. Tech. EXAMINATION, 2020

(Fifth Semester)

(B Scheme) (Re-appear Only)

(BT)

BT307B

DOWNSTREAM PROCESSING

Time : 2½ Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Four* questions in all. All questions carry equal marks.

1. Write a short note on the history and scope of DSP and how this field is of immense importance for biotechnology ?
2. Distinguish between upstream and downstream processing. Explain the physiochemical basis of bioseparation.
3. Write short notes on the following :
 - (a) Electro osmotic flow
 - (b) Isoelectric focusing
 - (c) Capillary zone Electrophoresis.
4. Write short notes on the following :
 - (i) Flocculation
 - (ii) Antibiotic purification
 - (iii) Ultra filtration.
5. Explain the following terms in detail along with examples wherever necessary :
 - (a) Dynamic immobilization

- (b) Heat and Photosensitive sensitive materials
 - (c) Reverse osmosis.
6. What do you understand by product recovery trains ? Illustrate this with the help of few examples.
 7. Define term “effluent”. Explain aerobic treatment of industrial effluents.
 8. Explain application of unit operation in extractive fermentation.