

Unit 3 - Week 1: Introduction

Course outline

How to access the portal?

Prerequisites Assignment

Week 1: Introduction

- Introduction
- Mass balance, Heat Balance, flow sheet
- Costing
- Quiz : Assignment 1
- Week 1 Feedback : Principles Of Downstream Techniques In Bioprocess
- Week 1 Lecture materials

Week 2

Week 3: Cell breakage and Solid-Liquid Separation

Week 4 Solid liquid separation

Week 5 Adsorption

Week 6 Liquid-Liquid Extraction

Week 7 Extraction and membranes

Week 8 Membranes

Precipitation and chromatography

week 10 chromatography

week 11 chromatography and crystallization

Week 12 Drying and distillation

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Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-08-14, 23:59 IST.

1) In alcohol distillation during its manufacture what components are removed 1 point

- Water and methanol
- Water and ethanol
- Methanol and ethanol
- Propanol and ethanol

No, the answer is incorrect. Score: 0

Accepted Answers:
Water and ethanol

2) Media preparation is a 1 point

- Downstream process
- Mixed process
- Upstream process
- Recovery process

No, the answer is incorrect. Score: 0

Accepted Answers:
Upstream process

3) Which downstream process is not used to remove solids from slurry 1 point

- Sedimentation
- Filtration
- Drying
- Flocculation

No, the answer is incorrect. Score: 0

Accepted Answers:
Drying

4) Separation based on size is achieved in 1 point

- Affinity chromatography
- Gel filtration chromatography
- Reversed phase chromatography
- Ion chromatography

No, the answer is incorrect. Score: 0

Accepted Answers:
Gel filtration chromatography

5) Three downstream purification steps are used to recover a product. The efficiency of product recovery in each step is 90, 95, and 98 % respectively. What is the overall product loss in %?

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 16.1,16.3

1 point

6) Two feeds A and B at 10 and 20 l/h flow rate with 1 g/l and 1.5 g/l of ciprofloxacin respectively are entering a separator. The stream A leaving the separator now contains 0.75 g/l of ciprofloxacin. What will be the concentration of Cipro in stream B leaving the separator?

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 1.61,1.63

1 point

7) In the manufacture of human insulin, 50% of the manufacturing cost is raw materials and the rest is waste disposal, man power, energy and QC. Man power contributes 20% of this remaining. Waste disposal, energy and QC contribute equally to this remaining. What is the cost of QC in the overall manufacturing cost in % ?

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 13,14

1 point

8) A filter costs Rs 10,00,000 and its annual depreciation is 10%. What will be its depreciated value after 5 years?

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 590470,590500

1 point

9) I am inheriting a cash of Rs 100 Lakhs in the year 2024. What will be its net present value in the year 2020? (assume discount rate as 10%)

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 68.25,68.35

1 point

10) A fermentation broth contains 30 weight % dead mass and rest liquid, the latter needs to be recovered fully. The annual production of the broth is 10,000 kg. A filter press retains 11 weight% of the liquid in the solid waste, while if a centrifuge is used the solids retain 1 weight% of the liquid. How much liquid is lost if I use filter press?

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 299,301

1 point