

Virtual University of Pakistan

BIO204

Principle of Biochemical Engineering

Final Past Papers

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Requirements to run a fermenter..

Batch and continuous..

Parts of fermenter..

How sterilized product exhaust air.. Aisa he tha..

Richard sterilization cycle..

Chemostat Long

10 marks

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Oxygen delivery in foam control system..

Recovery and purification..

Factors consider when designing a fermenter..

BIO204 Final term paper

1. Write any Two Risks described by Collins? 2
2. What is Sterilization? 2
3. Requirements to run a fermenter? 2
4. How sterilized product exhaust air? 3
5. Factors consider when designing a fermenter? 5
6. Richards' RAPID METHOD FOR DESIGNING OF STERILIZATION CYCLES? 5
7. Discuss Oxygen delivery system and Foam control system? 10
8. Discuss batch and continuous sterilization process, filter Sterilization of Media, Sterilization of the Fermenter, Feeds and of Liquid Wastes. 10

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Mcqs In $X_t = x_0 e^{\mu t}$, X_0 what is x_0 and x_t in this equation

Nitril or butyl rubbers are normally used for these (seals.) yamcqtha

11. If q_p is strictly growth related then it will change as μ with D and, thus, the product concentration remain (constant.) Baqi b mid k pprssy thy kuch quiz sy thy kuchbongy thy
Questions:

Components of fermenter What is

chemostate(2) product recovery 3mrks ,

sterilization 2 mrks , del factor equation, 3

mrksfermenr parts 3 mrks requirements for

fermentation 5 mrks

Roffler et al. (1984) techniques 5 mrks

Effluent treatment 5mrks how to

sterilize air exhaust 2 mrks

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Main objectives to recover production (2)

2 function of agitation system (3)

Delta factor write full equation (2)

Richards rule briefly explain (3)

Rofler 5 technique for the recovery of the product (5)

Explain batch and continuous culture (5)

Explain recovery and purification of product (5)

Steady state of chemostate and quasi state of fed batch ka difference and effect of Y , μ_{max} , and K_s on biomass (4)

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1)what is sterilization

2)two major functions of agitation system 3)sterilization of exhaust air.

4)discuss batch and cont culture briefly

5)recovery and purification

6)Roffler at al technique

7)6 basic suggestions to consider site for treating industrial waste

8)diff b/w the quasi state and steady state.?also give effects of Y , μ_{max} and K_s on biomass concentration

9) Yoshida et al technique for culture

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Factor depend on the product of the productivity

Five technique of roffleeetl for in recovery fermentation product

Relatiobtwnqp and according to fed batch cultu

Batch cultu and continuous cltrbriefly explain

Convert Monod equation to linear equ

Recovery and purification factor on the fermentatio

Sterilization and its technique

Recovery and purification factor on the fermentation

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1. What is sterilization?

2. Difference between batch culture and continuous culture ?
3. How can we calculate both live and dead cells? 4. Relation of q_p and M (μ_{max}) in fed batch culture.
5. Sterilization of exhaust air.
6. Basic suggestions to individual site for treating industrial waste.
7. Roffler 5 technique for the recovery of the product.
8. Factors consider when designing a fermentor.
9. $X_t/X_o = e^{-kt}$, define x_t and k_t .
10. Explain recovery and purification of product.

Bio204 paper 1-9-18

32. 2. What is Sterilization? 2
 33. The main objective of the first stage for the recovery? 2
 34. Equation for overall Del factor ? 2
 35. Function of compressor? 3
 36. $X_t/X_o = e^{-kt}$, define x_t and k_t ? 3
 37. Why Bottom entry agitators tend to require more maintenance than top entry impeller? 3
 38. 6 basic suggestions to consider site for treating industrial waste? 3
 39. Richards' RAPID METHOD FOR DESIGNING OF STERILIZATION CYCLES? 5
 40. Roffler et al. (1984) techniques 5 marks
 41. Q7: Briefly discuss batch and continuous culture. (5)
- Explain in detail the recovery and purification of fermenter products.(10)