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Courses » Bioreactors

Announcements

Course

Ask a Question

Progress

FAQ



Unit 3 - week 1

Register for Certification exam

Course outline

How to access the portal

Week 0

week 1

- lecture 1 - Introduction
- lecture 2 - sterilization
- lecture 3 - solution to PP 1.1
- Quiz : Assignment 1
- Week 1 feedback form - Bioreactors

week 2

week 3

week 4

Notes

Download

Interaction Session

Assignment 1

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-02-13, 23:59 IST**

1) Given are the important components of insulin bioprocessing. Match the following: **1 point**

- | A | B |
|------------------------|--------------|
| 1. Defined medium | a. Inoculum |
| 2. Recombinant E. coli | b. Product |
| 3. Insulin | c. Substrate |

- 1-a, 2-b, 3-c
- 1-c, 2-a, 3-b
- 1-b, 2-a, 3-c
- 1-c, 2-b, 3-a

No, the answer is incorrect.
Score: 0

Accepted Answers:
1-c, 2-a, 3-b

2) Monoclonal antibodies are produced using specialized cells called **1 point**

- Cambial meristematic cells
- Microalgae
- Stem cells
- Hybridomas

No, the answer is incorrect.
Score: 0

Accepted Answers:
Hybridomas

3) What methods of sterilization from below could be used while handling temperature sensitive items required for a bioprocess? **1 point**

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Score: 0**Accepted Answers:***Chemicals*
*UV Irradiation*4) The actual factories in a bioreactor which acts to produce desirable products could be **1 point**

- Bacteria
- Plant cell
- Fungi
- Animal cell

No, the answer is incorrect.**Score: 0****Accepted Answers:***Bacteria*
Plant cell
Fungi
*Animal cell*5) Bio-oil production from microalgae is majorly carried out in a photobioreactor because: **1 point**

- The medium used is light sensitive
- The product, bio-oil is light sensitive
- Microalgae is photosynthetic
- Precursors are light sensitive

No, the answer is incorrect.**Score: 0****Accepted Answers:***Microalgae is photosynthetic*6) Which mode of operation of a bioreactor is suitable for a bioprocess that has a toxic end product (toxic to the cells in the reactor)? **1 point**

- Only batch operation
- Only continuous operation
- Only fed-batch operation
- Both continuous and fed-batch

No, the answer is incorrect.**Score: 0****Accepted Answers:***Both continuous and fed-batch*7) During a bioprocess, it is important to monitor the parameters such as temperature, pH and DO using their respective probes as variations in these could **1 point**

- Affect the growth of the organism
- Yield and quality of the product produced
- Alter an enzyme activity
- Affect the inner surface of the bioreactor

No, the answer is incorrect.**Score: 0****Accepted Answers:***Affect the growth of the organism*

Yield and quality of the product produced

Alter an enzyme activity

8) When a single cell suspension is subjected to heating, the rate of decrease in viable cell concentration is _____ to the viable cell concentration at any time. **1 point**

- Inversely proportional
- Directly proportional
- Equal
- Not related

No, the answer is incorrect.

Score: 0

Accepted Answers:

Directly proportional

9) The main factors to be considered while designing a sterilization protocol are: **1 point**

- Temperature
- Time of exposure
- Initial number of organisms
- Initial pH of the medium

No, the answer is incorrect.

Score: 0

Accepted Answers:

Temperature

Time of exposure

Initial number of organisms

10) The media used for a bioprocess is contaminated with single cells with similar thermal response characteristics. It has been observed that by maintaining the media at 75°C for 5 min, 60% of the cells become non-viable. Determine the decimal reduction time. Choose the answer closest to your calculated answer. **1 point**

- 7.2 min
- 9.6 min
- 12.6 min
- 16.6 min

No, the answer is incorrect.

Score: 0

Accepted Answers:

12.6 min



Previous Page

End

