

# Unit 10 - Week 8: Bioenergy Distribution & End Use For a Sustainable Future

## Course outline

How to access the portal

Pre-requisite assignment

Week 1: Introduction to Bioenergy

Week 2: Basics of Biomass Technology & Biomass Resources

Week 3: Biofuels I

Week 4: Biofuels II

Week 5: Biofuels III

Week 6: Bio Power I

Week 7: Bio Power II

Week 8: Bioenergy Distribution & End Use For a Sustainable Future

Lecture 36 - Down drift and Cross Flow Gasifier

Lecture 37 - Operation and Performance of Fixed Bed Gasifier

Lecture 38 - Fluidized Bed Gasification

Lecture 39 - Operation and Performance of Fluidized Bed Gasifier

Lecture 40 - Biological Root of Gasification and Summary of Course

Lecture 41 - Lab Video Lecture

Lecture Notes

Quiz : Assignment 8

Feedback for Week 8

Solutions - Assignment 8

## Assignment 8

The due date for submitting this assignment has passed.

**Due on 2019-09-25, 23:59 IST.**

As per our records you have not submitted this assignment.

1) Overall efficiency of down-drift gasifier is \_\_\_\_\_ due to \_\_\_\_\_ heat content carried over by a lot of hot gas

1 point

- high, low  
 low, high  
 high, high  
 low, low

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
low, high

2) In down drift gasifier, direction of feed and air is \_\_\_\_\_, the amount of ash in the system is \_\_\_\_\_

1 point

- same, low  
 different, low  
 same, high  
 different, high

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
same, high

3) Which of these is not present in the product gas through fixed bed gasifier

1 point

- Hydrogen  
 Nitrogen  
 Bromine  
 Methane

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Bromine

4) Fluidised bed gasification is of two types: \_\_\_\_\_ fluidised bed and \_\_\_\_\_ fluidised bed

1 point

- Circulized, random  
 Bubbling, spiral  
 Spiral, random  
 Circulised, bubbling

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Circulised, bubbling

5) Fluidised bed has \_\_\_\_\_ temperature distribution and fixed bed has \_\_\_\_\_ temperature distribution in gasification zone

1 point

- non-uniform, non-uniform  
 uniform, uniform  
 uniform, non-uniform  
 non-uniform, uniform

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
uniform, non-uniform

6) To counter slagging, bed temperature is \_\_\_\_\_, but it leads to \_\_\_\_\_ char formation

1 point

- increased, increased  
 increased, decreased  
 decreased, increased  
 increased, decreased

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
decreased, increased

7) Due to high \_\_\_\_\_ content in herbaceous plants, more ash is produced in fluidised bed gasifier

1 point

- non-metal  
 air  
 water  
 alkali metal

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
alkali metal

8) Conventional charcoals are used to remove particulate impurities of size

1 point

- less than 1 nm  
 greater than 10 nm but less than 100 nm  
 greater than 10  $\mu\text{m}$   
 less than 1  $\mu\text{m}$  but greater than 100 nm

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
greater than 10  $\mu\text{m}$

9) In the lab video, which chemical was used to convert graphene oxide to reduced graphene oxide

1 point

- Hydrochloric acid  
 Nitric acid  
 Hydrazine hydrate  
 Water

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Hydrazine hydrate

10) Which microbes undergo aerobic digestion to produce

1 point

- methane, oxygen  
 methane, carbon oxide  
 methane, nitrogen  
 methane, benzene

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
methane, carbon oxide