

Unit 8 - Week 7

Course outline

How to access the portal

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Week 7

- Carbon Balance, Comparison of Various Types of Brick Kilns and Sealants, Paints, Adhesive

- Sealants, Health Hazards of Building Materials and Emission Models

- Emission Models and Testing

- PDF File

- Quiz : Assignment 7

- Feedback Form

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Solution of Assignment

Assignment 7

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

Due on 2019-09-18, 23:59 IST.

1) Choose the correct option that places various brick kilns in the descending order of their suspended particulate matter emissions. **1 point**

* DDK = Down-Draught Kiln, FCBTK = Fixed Chimney Bull's Trench Kiln, VSBK = Vertical Shaft Brick Kiln

- FCBTK, Zig-Zag Kiln, VSBK, DDK
 DDK, Zig-Zag Kiln, VSBK, FCBTK
 Zig-Zag Kiln, VSBK, FCBTK, DDK
 DDK, FCBTK, Zig-Zag Kiln, VSBK

No, the answer is incorrect.
Score: 0

Accepted Answers:
DDK, FCBTK, Zig-Zag Kiln, VSBK

2) Name the chemical compound present in the paints, sealants etc., that is considered hazardous for human health due to their being absorbed in the respiratory tract when inhaled. [Answer in one word]

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): formaldehyde, formaldehydes

3) are basecoats applied to a surface to increase the adhesion of subsequent coats of paint or varnish.[Answer in one word] **1 point**

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): primers, primer

4) A composition of pigments, fillers, binders, additives and solvent with no powder material is called [Answer in one word] **1 point**

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): varnish, varnishes

5) are compounds capable of sticking two or more components to form a new entity. [Answer in one word] **1 point**

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): adhesives, adhesive

6) are added to get good gap filling properties and slump resistance against flow. [Answer in one word] **1 point**

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): fillers, filler

Q 7) – Q 8) are linked

The concentration (C) at time (t) = 100, 120 and 140 hours in an emission testing chamber are 0.11 , 0.08 and 0.06 mg/m³ respectively. The number of air changes in the chamber are 3. The chamber volume is 2.5 m³ and test sample size (surface area) is 2 m².

7) Estimate the slope of the concentration decay curve using the three data points $\Delta C/\Delta t$.

Yes, the answer is correct.
Score: 3

Accepted Answers:
(Type: Range) -0.0013,0.0013

8) Estimate the surface emission rate at 120 hours. **3 points**

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Range) 0.29,0.31

9) At some instant, VOC concentration is 10 mg/litre in a room and instantaneously all VOC sources are removed from the above room. Which of the following equations correctly represents the variation of VOC concentration with time, given C is in mg/VL and t is in hours. Number of air changes in the room is 3. Assume that the concentration of VOC homogenizes over the entire room instantaneously. **3 points**

Hint: (1) Formulate a differential equation for the change in mass of VOC in the room and then integrate
(2) Mass of VOC in the room = concentration of VOC × room volume

- C= exp(-6×t+3)
 C= exp(-3×t+2.3)
 C= exp(+3×t+2.3)
 C= exp(+6×t+3)

No, the answer is incorrect.
Score: 0

Accepted Answers:
C= exp(-3×t+2.3)