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Courses » Fundamentals of Combustion (Part 2)

Announcements Course Ask a Question Progress Mentor FAQ

## Unit 1 - How to access the portal

### Course outline

#### How to access the portal

- How to access the home page?
- How to access the course page?
- How to access the MCQ, MSQ and Programming assignments?
- Quiz : Week 0 : Assignment

#### Week 1: Introduction to Flame and One dimensional Combustion Wave Analysis

#### Week 2: Laminar Premixed Flames and Burning Velocity

#### Week 3: Effects of Physical and Chemical Variables on Burning Velocity, Flame Extinction, Ignition and

### Week 0 : Assignment

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-08-06, 23:59 IST.**

1) Specific volume is an intensive property. Following statement is **1 point**

- True
- False

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*True*

2) Consider the following equations: **1 point**

$3A + 6B \rightarrow 3D \quad \Delta H = 403 \text{ kJ/mol}$   
 $E + 2F \rightarrow A \quad \Delta H = -105.2 \text{ kJ/mol}$   
 $C \rightarrow E + 3D \quad \Delta H = +64.8 \text{ kJ/mol}$   
 the heat of reaction of following equation  
 $F + \frac{1}{2} C \rightarrow A + B + D$

- +47.0 kJ/mol
- 87.4 kJ/mol
- 362.8 kJ/mol
- 362.8 kJ/mol

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*-87.4 kJ/mol*

3) If enthalpy change ( $\Delta H$ ) for a reaction is -ve . Then the reaction is endothermic. Following statement is : **1 point**

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## Diffusion Flames

Week 5:  
Diffusion Flame  
and Introduction  
to Droplet  
Combustion

Week 6: Droplet  
and Spray  
Combustion

Week 7: Solid  
Fuel  
Combustion

Week 8:  
Combustion and  
Environment

4) For the process to occur under adiabatic condition , the correct condition is :

1 point

- $\Delta T=0$   
  $\Delta p=0$   
  $Q=0$   
  $W=0$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$Q=0$

5) Consider the following equation

1 point



Initial concentration of  $\text{SO}_3$  is 5 mole/l at atmospheric condition. At equilibrium condition ,concentration of  $\text{SO}_3$  is reduced to 3 mole/l. The value of  $K_c$  (equilibrium constant) is :

- 6.75 mole/l  
 0.44 mole/l  
 1.67 mole/l  
 0.60 mole/l

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.44 mole/l

6) The half life period of decomposition of a compound is 50 minutes. If the initial concentration is doubled, the half life period is reduced to 25 minutes. The order of reaction is

1 point

- 1st order  
 2nd order  
 0 order  
 None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

2nd order

7) The major indoor combustion pollutants are

1 point

- Carbon monoxide  
 Polynuclear aromatic hydrocarbons (PAHs)  
 Nitrogen dioxides  
 All of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of these

8) In presence of excess air, the value of equivalence ratio is

1 point

- $< 1$   
  $=0$

>1

No, the answer is incorrect.

Score: 0

Accepted Answers:

< 1

9) Viscosity of liquids decreases with increase in temperature. Following statement is : **1 point**

True

False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

10) Air is flowing over a 1m long flat plate at a rate of 10 m/s. Reynolds number and nature of flow are : **1 point**  
(density = 1.125 kg/m<sup>3</sup>, viscosity = 1.81 × 10<sup>-5</sup> kg/m.s)

1\*10<sup>5</sup>, Laminar

6.2\*10<sup>5</sup>, Turbulent

2.3\*10<sup>5</sup>, Laminar

5.2\*10<sup>5</sup>, Turbulent

No, the answer is incorrect.

Score: 0

Accepted Answers:

6.2\*10<sup>5</sup>, Turbulent

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