

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

● Lecture 56 : Energy Balance with Chemical Reactions - VI

● Lecture 57 : Humidity & Psychrometric Chart - I

● Lecture 58 : Humidity & Psychrometric Chart - II

● Lecture 59 : Humidity & Psychrometric Chart - III

● Lecture 60 : Humidity & Psychrometric Chart - IV

● Week 12 Lecture Material

○ Quiz: Week 12 : Assignment 12

● Week 12 Feedback Form

Download Videos

Detailed Assignment Solution

Live Interactive session

Week 12 : Assignment 12

The due date for submitting this assignment has passed.

Due on 2021-10-20, 23:59 IST.

As per our records you have not submitted this assignment.

 1) **Pick up the correct statement.** 2 points

- (A) Heat of formation of all ions = 0.
 (B) Heat of formation value of all ions depend on the assumption $\Delta H_f^\circ, H^+ = 0$
 (C) Heat of formation value of all ions depend on the assumption $\Delta H_f^\circ, OH^- = 0$
 (D) Heat of formation value of all cations = 0.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

B)

 2) **Real solution:** 2 points

- (A) Follow van der walls equation of state.
 (B) All liquid-liquid solutions are real solution.
 (C) There is change in enthalpy of system due to dissolution/mixing.
 (D) There is no thermal effect of mixing.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

C)

 3) **Find the odd entity.** 2 points

- (A) Heat of mixing
 (B) Heat of solution
 (C) Heat of dissolution
 (D) Heat of formation

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

D)

 4) **The necessary condition for a solute to dissolve in a solvent is;** 2 points

- (A) The strength of the adhesive interaction of more than the strength of cohesive interaction.
 (B) The strength of cohesive interaction is more than the strength of adhesive interaction.
 (C) The intermolecular space of solvent molecules is large as compared to the size.
 (D) The density of solvent must be higher than that of solute.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

A)

 5) **In weather forecast,** 2 points

- (A) Absolute humidity is most commonly used.
 (B) Relative humidity is most commonly used.
 (C) Specific humidity of most commonly used.
 (D) Any one humidity parameter listed above is used.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

B)

 6) **If moist air has 6% specific humidity, it would mean;** 2 points

- (A) 6 kg of water vapor is present in 100 kg of moist air.
 (B) 6 kg of water vapor is present in 94 kg of bone-dry air.
 (C) 6 kg of water vapor is present in 106 kg of moist air.
 (D) 6 kg of water vapor is present in 106 kg of bone-dry air.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

C)

 7) **The relation between specific humidity (H) and molar specific humidity (H_{sp}) is;** 2 points

- (A) $H_{sp} = \frac{29}{18} H$
 (B) $H_{sp} = \frac{18}{29} H$
 (C) $H_{sp} = H$
 (D) $H = \frac{29}{18} H_{sp}$

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

A)

 8) **Pick up the correct option. For Air with same moisture content.** 2 points

- (A) Wet bulb temperature increases with increase in % RH.
 (B) Wet bulb temperature is also same.
 (C) Wet bulb temperature decreases with increase in % RH.
 (D) % RH must be the same.

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

C)

 9) **The wet bulb temperature of humid air with 30% RH and moisture content 0.024 is** 2 points

- (A) 30.4 °C
 (B) 35.0 °C
 (C) 28.5 °C
 (D) 32.6 °C

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

D)

 10) **Humidity volume of air with wet bulb temp = 41 C and moisture content 0.036 is;** 2 points

- (A) 1.05 m³/kg dry air
 (B) 1.0 m³/kg dry air
 (C) -5.0 KJ/kg
 (D) 0.9834 m³/kg dry air

- A)
 B)
 C)
 D)

No, the answer is incorrect.

Score: 0

Accepted Answers:

A)