

Course outline

How does an NPTEL online course work?

Week-01

Week-02

Week-03

Week-04

Week-05

Week-06

- Lecture 12- Thermodynamics of Nano materials (II)

- Lecture 13- Thermodynamics of Nano materials (III)

- Feedback for Week 6

- Quiz: Week-06: Assignment-06

- Week-06: Assignment-06 Solution

Week-07

Week-08

Week-09

Week-10

Week-11

Week- 12

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Week-06: Assignment-06

The due date for submitting this assignment has passed.

Due on 2021-09-08, 23:59 IST.

As per our records you have not submitted this assignment.

1) Surface energy is dependent on

1 point

- Temperature
- Composition
- Orientation
- Above of all

No, the answer is incorrect.
Score: 0

Accepted Answers:
Above of all

2) In Hume-Rothery rules for extensive solid solubility, the atomic diameter of the solute and the solvent atoms should not differ by more than

1 point

- 50%
- 15%
- 23%
- 10%

No, the answer is incorrect.
Score: 0

Accepted Answers:
15%

3) As a particle size decrease, the eutectic temperature of nanophase diagram

1 point

- Increases
- Does not show any changes
- Decreases
- Depends on the system to system

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decreases

4) The unit cell with three lattice parameters is

1 point

- Tetragonal
- orthorhombic
- Monoclinic
- Triclinic

No, the answer is incorrect.
Score: 0

Accepted Answers:
orthorhombic

5) When the Gibbs-Duhem equation satisfied?

1 point

- $\sum N_i^{bulk} d\mu^{bulk} = 0$
- $\sum N_i^{bulk} d\mu^{bulk} > 0$
- $\sum N_i^{bulk} d\mu^{bulk} < 0$
- $\sum N_i^{bulk} dT^{bulk} = 0$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $\sum N_i^{bulk} d\mu^{bulk} = 0$

 6) For isotropic spherical particles the surface Gibbs energy ($G_{surface}$) is expressed

1 point

- $\frac{3C^0 \gamma^0 V^0}{4r}$
- $\frac{2C^0 \gamma^0 V^0}{r}$
- $\frac{2C^0 V^0}{\gamma^0 r}$
- $\frac{3C^0 \gamma^0}{4r}$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $\frac{2C^0 \gamma^0 V^0}{r}$

7) Gibbs-Duhem equation for nano systems are:

1 point

- $\sum N_i^{Nano} d\mu^{Nano} + A dr = 0$
- $\sum N_i^{Nano} d\mu^{Nano} + r dA = 0$
- $\sum N_i^{Nano} d\mu^{Nano} + A dr > 0$
- $\sum N_i^{Nano} d\mu^{Nano} + A dr < 0$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $\sum N_i^{Nano} d\mu^{Nano} + A dr = 0$