

## Course outline

How does an NPTEL online course work?

Week-01

Week-02

Week-03

Week-04

Week-05

Week-06

Week-07

● Lecture 14- Effect of Particle Size on Phase Diagram

● Lecture 15- Synthesis Route of Nanoalloys

● Feedback for Week 7

○ Quiz: Assignment-07

● Week-07: Assignment-07 Solution

Week-08

Week-09

Week-10

Week-11

Week- 12

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# Assignment-07

The due date for submitting this assignment has passed.

**Due on 2021-09-15, 23:59 IST.**

As per our records you have not submitted this assignment.

1) Total Gibbs free energy of spherical nanoparticles is the function of

1 point

- Grain boundary concentration
- Particle diameter
- Both of above
- None of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Both of above

2) As decreasing particle radius solidus and liquidus lines in Ag-Cu phase diagram shifted towards

1 point

- Lower Temperature
- Higher temperature
- Higher Cu concentration
- None of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Lower Temperature

3) Solid-state solubility increases in both Ag and Cu rich solid solutions by

1 point

- Decreasing particle radius
- Increasing particle radius
- Increasing Cu concentration
- None of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Decreasing particle radius

4) Depression of the eutectic temperature of Ag-Cu binary phase diagram by

1 point

- Decreasing particle radius
- Increasing particle radius
- Increasing Cu concentration
- None of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Decreasing particle radius

5) What is the route in the top-down synthesis method?

1 point

- Nano-particles -> Powder -> Bulk
- Powder -> Bulk -> Nano-particles
- Bulk -> Powder -> Nano-particles
- Nano-particle -> Bulk -> Powder

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Bulk -> Powder -> Nano-particles

6) Which of the following is an example of the Bottom-Up approach?

1 point

- Attrition
- Colloidal dispersion
- Milling
- Etching

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Colloidal dispersion

7) Typical precursors are used in sol-gel are\_\_\_\_\_

1 point

- Metal oxides
- Metal dioxides
- Metal alkoxides
- Metal fluorides

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Metal alkoxides

8) Which gas serves as buffer gas in Laser ablation?

1 point

- Nitrogen
- Oxygen
- Helium
- Neon

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Helium

9) Mechanical alloying is\_\_\_\_\_

1 point

- Solid-state powder processing technique
- Top-down approach
- Both of above
- None of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Both of above

10) Electrodeposition technique involves

1 point

- Direct current (DC) electroplating
- Pulsed current (PC) deposition
- Bottom-up approach
- All of above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
All of above