

Unit 6 - Week 5

Course outline

How does an NPTEL online course work?

Week 1

Week 2

Week 3

Week 4

Week 5

Need of Advanced Methods for Surface & Coating Testings

Size Dependency in Nanostructures of Nanocoatings

Size Effect in Electrochemical Properties of Nanostructured Coatings

Size Effect in Mechanical Properties of Nanostructured Coatings

Size Effect in Physical and Other Properties of Nanostructured Coatings

Quiz : Assignment 5

Solution for Assignment 5

Week 6

Week 7

Week 8

Download Videos

Feedback

Text Transcripts

Assignment 5

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

Due on 2020-03-04, 23:59 IST.

All are compulsory

1) What is the best method to examine morphology of nano-coatings? 1 point

- Optical microscopy
- SEM
- AFM
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
AFM

2) Property(ies) that can be determined using FESEM analysis of surface coatings is/are: 1 point

- Structure
- Particle size and shape
- Homogeneous distribution
- All of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of these

3) Nanomaterial's dimensions falls in the range of: 1 point

- 0.1-50 nm
- 0.1-100 nm
- 1-100 nm
- 10-500 nm

No, the answer is incorrect.
Score: 0

Accepted Answers:
1-100 nm

4) Which of the following will be better related to the term "size dependency of nano-structured coatings" 1 point

- Coating thickness
- Particle size
- None of these
- Both (a) & (b)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both (a) & (b)

5) Select the correct reason for an increase in density of passive film formed on the surfaces with smaller granule size: 1 point

- Spreading of energy band
- Increase in energy band
- Decrease in energy band
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Spreading of energy band

6) Select correct depending parameter for the corrosion to take place on nano-coatings: 1 point

- Duty cycle
- Environmental conditions
- Density
- Grain size

No, the answer is incorrect.
Score: 0

Accepted Answers:
Grain size

7) The reason for increase in yield strength and tensional strength is: 1 point

- Increase in grain size
- Decrease in grain size
- First increase and then decrease in grain size
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decrease in grain size

8) Select the correct reason for the statement "Erosion resistance of nanomaterials is more than that of materials having large grain size" 1 point

- Because of good fatigue strength
- Because of high ductility
- Because of higher stiffness
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Because of higher stiffness

9) Select the correct statement from the following: 1 point

- P. Nanocrystalline materials show a decrease in saturated magnetism with lower grain size.
- Q. Magnetic properties are independent of particle size.

- Q only
- P only
- Neither P nor Q
- Both P and Q

No, the answer is incorrect.
Score: 0

Accepted Answers:
P only

10) _____ is mainly responsible for decrease in ionic conductivity of thin films with increase in their thickness. 1 point

- Surface plasmon resonance
- Nano-size effect
- Quantized conduction
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Nano-size effect