

Course outline

How does an NPTEL online course work?

Week-01

Week-02

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Week-04

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Week-10

Week-11

- Lecture 25-Magnetic properties of nanomaterials
- Lecture 26-Optical properties of nanomaterials (I)
- Lecture 27-Optical properties of nanomaterials (II)
- Quiz: Week 11: Assignment 11
- Week-11: Assignment-11 Solution
- Feedback for Week 11

Week- 12

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Week 11: Assignment 11

The due date for submitting this assignment has passed.

Due on 2021-10-13, 23:59 IST.

As per our records you have not submitted this assignment.

1) Which of the following parameter is used to assess the magnetic ability of a material?

1 point

- Magnetic flux density
- Magnetization
- Susceptibility
- Magnetic dipole moment

No, the answer is incorrect.

Score: 0

Accepted Answers:

Susceptibility

 2) For a diamagnetic material, which of the following statement is correct (μ_r = relative permeability)?

1 point

- $\mu_r > 2$
- $\mu_r < 1$
- $\mu_r > 1$
- $\mu_r = 1$

No, the answer is incorrect.

Score: 0

Accepted Answers:

 $\mu_r < 1$

3) For a paramagnetic material, which of the following statement is correct?

1 point

- Magnetic susceptibility < 0
- Magnetic susceptibility > 0
- Magnetic susceptibility = 0
- Magnetic susceptibility = -1

No, the answer is incorrect.

Score: 0

Accepted Answers:

 Magnetic susceptibility > 0

4) The temperature of the antiferromagnetic-to-paramagnetic transition is termed as

1 point

- Curie–Weiss temperature
- Neel temperature
- Antiferromagnetic Curie temperature
- Debye temperature

No, the answer is incorrect.

Score: 0

Accepted Answers:

Neel temperature

5) As we decrease the dimensionality particle, the magnetic moment is

1 point

- Decreases
- Increases
- Both of above
- Independent on the dimension

No, the answer is incorrect.

Score: 0

Accepted Answers:

Increases

6) In multi-domain, coercivity increases with

1 point

- Decreasing particle size
- Increasing particle size
- Increasing domain wall thickness
- None of above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Decreasing particle size

7) In the single domain, coercivity _____ with _____ particle diameter.

1 point

- Increase, decreasing
- Decrease, decreasing
- Increase, increasing
- Decrease, increasing

No, the answer is incorrect.

Score: 0

Accepted Answers:

Decrease, decreasing

8) The thermal equilibrium concentration of the electrons in the conduction band and the holes in the valence band depends upon.

1 point

- Effective density of states
- Fermi energy level
- Both A and B
- Neither A nor B

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both A and B

9) Exciton is a _____

1 point

- Bound state of an electron
- Bound state of hole
- Bound state of an electron and hole pair
- Neither A nor B

No, the answer is incorrect.

Score: 0

Accepted Answers:

Bound state of an electron and hole pair

10) With reducing the size of the particle, which properties of semiconductor changed?

1 point

- Density of states becomes more quantized
- Band-gap shifts to higher energies
- Both of above
- None of above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both of above