Started on	Thursday, 19 October 2023, 12:35 PM
State	Finished
Completed on	Thursday, 19 October 2023, 12:42 PM
Time taken	7 mins 33 secs
Grade	**8.00** out of 10.00 (**80**%)

Question 1

Correct

Mark 1.00 out of 1.00

In the hysteresis curve (P vs E), which statement is true

Select one:

- a. domain configuration is the same at those points where polarization is zero.
- b. Polarization is zero only at zero electric field.
- c. Polarization is zero only at the coercive electric field.
- d. domain configuration is different at those points where polarization is zero. ✓

Your answer is correct.

The correct answer is: domain configuration is different at those points where polarization is zero.

Question 2

Correct

Mark 1.00 out of 1.00

which of the statement is true

Select one:

- a. There is no relation between piezoelectricity and ferroelectricity.
- b. All ferroelectric materials are piezoelectric. ✓
- c. All piezoelectric materials are ferroelectric.

Your answer is correct.

The correct answer is: All ferroelectric materials are piezoelectric.

Question 3

Correct

Mark 1.00 out of 1.00

For what frequency, $k = n^2$ is valid (k=dielectric constant, n=refractive index)

Select one:

- a. valid for all the frequency range for both low and optical frequencies
- b. low frequency
- c. it is not valid for any frequency range
- d. optical frequency ✓

Your answer is correct.

The correct answer is: optical frequency

Question 4

Incorrect

Mark 0.00 out of 1.00

The dielectric constant of the Germanium atom is ____ Germanium Crystal.

Select one:

- a. greater than ✗
- b. equal to
- c. smaller than

Your answer is incorrect.

The correct answer is: smaller than

Question 5

Correct

Mark 0.50 out of 0.50

Phonons are emitted or absorbed in _____ scattering of thermal neutrons by a crystal.

Select one:

- a. inelastic ✓
- b. elastic as well as inelastic
- c. without any
- d. elastic

Your answer is correct.

The correct answer is: inelastic

Question 6

Incorrect

Mark 0.00 out of 1.00

For a three-dimensional crystal having N primitive unit cells with q no of atoms per unit cell, the number of optical branches is

Select one:

- a. 3q-3
- b. 3qN-3
- c. 3N-3
- d. 3qN-3N ✗

Your answer is incorrect.

The correct answer is: 3q-3

Question 7

Correct

Mark 0.50 out of 0.50

Transfer of electrons takes place in

Select one:

- a. covalent bonding
- b. ionic bonding ✓
- c. metallic bonding
- d. none of the option is correct

Your answer is correct.

The correct answer is: ionic bonding

Question 8

Correct

Mark 1.00 out of 1.00

To obtain a capacitor that works at a low electric field and stores a large amount of charge, you require

Select one:

- a. material with a centrosymmetric structure
- b. nothing: empty capacitor
- c. material with a non-centrosymmetric structure ✓

Your answer is correct.

The correct answer is: material with a non-centrosymmetric structure

Question 9

Correct

Mark 1.00 out of 1.00

Debye Approximation is valid for

Select one:

- a. Optical branch
- b. none of the branches
- c. Acoustic branch ✓
- d. Acoustic as well as optical branch

Your answer is correct.

The correct answer is: Acoustic branch

Question 10

Correct

Mark 1.00 out of 1.00

Which polarization depends on temperature?

Select one:

- a. ionic
- b. all: electronic, ionic, and orientational
- c. none of the polarizations depend on the temperature
- d. orientational ✓
- e. electronic

Your answer is correct.

The correct answer is: orientational

Question 11

Correct

Mark 1.00 out of 1.00

Polarizability means

Select one:

- a. dipole moment per unit Volume
- b. total dipole moment per unit Volume^2
- c. total dipole moment per unit Volume
- d. dipole moment per unit electric field intensity ✓

Your answer is correct.

The correct answer is: dipole moment per unit electric field intensity

◀ Soln to Practice prob_2

Jump to...