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NPTEL

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Courses » Symmetry and Structure in the Solid State

Announcements **Course** Ask a Question Progress FAQ

# Unit 14 - Structure Determination Methodologies 1

Register for Certification exam

## Course outline

- How to access the portal
- Basics of Symmetry 1 : Generation of Point Groups
- Basics of Symmetry 2: Detailed Understanding of 32 Point Groups
- Assignment of Point Groups to Crystal Systems and Bravais Lattice
- Basics of Symmetry 4: Space Group Description And Introduction to the International Tables of Crystallography(ITC-Vol. A).
- Correlation Between Symmetry Diagrams and

## week 10- assignment 10

**The due date for submitting this assignment has passed.**
**As per our records you have not submitted this assignment.** **Due on 2019-04-10, 23:59 IST.**

1) Which equation describes the Friedel's law? ***2 points***

- **I** (h k l) = **I** (-h k l)
- **I** (h k l) = **I** (h -k l)
- **I** (h k l) = **I** (-h -k -l)
- **I** (h k l) = **I** (-h k -l)

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
***I*** *(h k l) =* ***I*** *(-h -k -l)*

2) How many Laue classes are there in Tetragonal system? ***2 points***

- 4
- 6
- 2
- 1

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*2*

3) A cubic lattice having lattice constant a= 5 Angstrom. What will be the "d" value for (120) plane? ***2 points***

- 5
- 3.569

*2.236*

4) A Tetragonal system having a=b=5 Angstrom and c=10 Angstrom. What will be the "d" value for (125) plane? ***2 points***

- 2.2222
- 1.4899
- 1.7682
- 3.6589

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*1.4899*

5) The position of a hydrogen atom can be identified by. ***2 points***

- Difference Fourier map
- Reflection Intensity
- Reciprocal lattice spacing
- Electron density map

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Difference Fourier map*

6) Calculate the Lorentz factor "L" at theta = 15 deg. ***2 points***

- 2
- 1.5
- 4
- 0.5

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*2*

7) What will be the value of Polarization factor "P" at theta=45 deg. ***2 points***

- 0.75
- 0.5
- 1
- 2

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*0.5*

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