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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 7 - Special Positions and Introduction to Wyckoff Notations.

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 6- Assignment 6

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-03-13, 23:59 IST.**

1) What is the possible special position in Pbc<sub>a</sub> space group? **2 points**

- "b" glide  
 "a" glide  
 Inversion center  
 21 screw axis

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Inversion center*

2) What is the point group of the space group Pna21? **2 points**

- 222  
 mmm  
 mm2  
 na2

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*mm2*

3) How many units of CaCO<sub>3</sub> are present in the aragonite unit cell? **2 points**

- 1  
 2  
 8

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## Notations.

Details of Space Groups 4

Crystal Structure of Calcium Carbonate

Crystal Structure of Some Minerals

Atoms in the Crystal: Positions and Relevant Properties

Crystallographic Directions and Planes

Quiz : Week 6- Assignment 6

## Interaction Session

## Text Transcripts

## Basics of X Ray Diffraction 1

## Basics of X Ray Diffraction 2

## Bragg's Law in Reciprocal Space

## Structure Determination Methodologies 1

## Structure Determination Methodologies 2

## Powder Diffraction Method &amp; Quantum Crystallography

ce De

4) Identify the centric space groups.

2 points

 Pbca C2/c Pmm2 I4/m

No, the answer is incorrect.

Score: 0

Accepted Answers:

Pbca

C2/c

I4/m

5) What is the direction of 3 fold axis in the Cubic system?

2 points

 [100] [111] [312] [003]

No, the answer is incorrect.

Score: 0

Accepted Answers:

[111]

6) Find out the Laue class for the point group 422.

2 points

 4 4mm mmm 4/mmm

No, the answer is incorrect.

Score: 0

Accepted Answers:

4/mmm

7) What are the possible directions of 2-fold axes in an Orthorhombic crystal system?

2 points

 [100] [111] [010] [001]

No, the answer is incorrect.

Score: 0

Accepted Answers:

[100]

[010]

[001]

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End

