

Unit 8 - Week 3

Course outline

How does an NPTEL online course work?

MATLAB

MATLAB_SCRIPTS

LAMMPS_SCRIPTS

Installation_Procedure

Week 1

Week 2

Week 3

- Symmetry of space groups
- Hermann maugin symbols of space groups
- Translational symmetry operators
- Week 3 lecture materials

Quiz : Assignment 3

Week 3 Feedback : Foundations of Computational Materials Modelling

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Additional Documents

Download videos

Text Transcripts

Assignment 3

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

Due on 2020-02-19, 23:59 IST.

1) How many point groups are there in 3D?

2 points

- 20
 32
 45
 36

No, the answer is incorrect.
Score: 0
Accepted Answers:
32

2) The symmetry element(s) of the monoclinic P lattice can be written as ____

2 points

- 2m
 $\frac{2}{m}$
 m
 4_2

No, the answer is incorrect.
Score: 0
Accepted Answers:
 $\frac{2}{m}$

3) Fill in the blanks:

The symmetry operation _____ relates pairs of points or objects which are equidistant from and on opposite sides of a central point.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) inversion
(Type: String) 1bar
(Type: String) 1 bar
(Type: String) mirror

4) Objects are said to be equivalent to one another if they can be brought into coincidence by the application of a symmetry operation.

2 points

- True
 False

No, the answer is incorrect.
Score: 0
Accepted Answers:
True

5) Hermann-Mauguin symbols are oriented symbols giving the symmetry operations or symmetry elements of _____

2 points

- point group
 inversion
 space group
 none

No, the answer is incorrect.
Score: 0
Accepted Answers:
point group
space group

6) Only rotoinversion axes of even order imply the presence of an inversion center.

2 points

- True
 False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

7) Glide planes can exist only in locations where there are mirror planes.

2 points

- True
 False

No, the answer is incorrect.
Score: 0
Accepted Answers:
True

8) The only symmetry element for the triclinic P lattice is _____

2 points

- $\bar{1}$
 3
 $\bar{3}$
 none

No, the answer is incorrect.
Score: 0
Accepted Answers:
 $\bar{1}$

9) Symmetry elements for the trigonal P lattice are $R\bar{3}\frac{2}{m}$

2 points

- True
 False

No, the answer is incorrect.
Score: 0
Accepted Answers:
True

10) Monoclinic bravais lattice exist as face centered unit cell.

2 points

- True
 False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

11) 4_3 and 4_1 are _____ pairs

2 points

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) enantiomorphous

A glide plane is present at $(x, y, 0.25)$, a coordinate (x, y, z) generates another coordinate A + x, 0.5+ B , 0.5- C as a result of a n -glide in an orthorhombic lattice.

12) Value of A _____ (Please give your answer in decimal and not in fraction)

1 point

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0.5
(Type: Numeric) 0.50

13) Value of B _____

1 point

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) y

14) Value of C _____

1 point

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) z