Week 3 : Assignment 3

The due date for submitting this assignment has passed.

Due on 2021-08-25, 23:59 IST.

As per our records you have not submitted this assignment.

1) Which of the following statement/s is/are true? *1 point*

- (a) In a 110 pole figure, only 110 crystallographic planes are observed.
- (b) In a 110 pole figure, any hkl crystallographic planes can be observed.
- (c) In 110 stereographic projection, only 110 crystallographic planes are observed.
- (d) In 110 stereographic projections, any hkl crystallographic planes can be observed

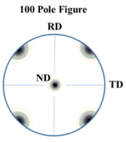
No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) In a 110 pole figure, only 110 crystallographic planes are observed.
(d) In 110 stereographic projections, any hkl crystallographic planes can be observed

2) The inverse pole figure represents: *1 point*

- (a) Crystal orientation with respect to sample reference frame
- (b) Sample orientation with respect to the crystal reference frame
- (c) Crystal orientation with respect to standard stereographic projection
- (d) Crystal orientation in a stereographic triangle

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) Sample orientation with respect to the crystal reference frame

3) **Texture corresponding to the 100 pole figure is:** *1 point*



(a) {100}⟨001⟩, (b) {100}⟨011⟩, (c) {110}⟨001⟩, (d) {111}⟨110⟩

- a
- b
- c
- d

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

4) **the texture corresponding to the orientation matrix** $\begin{pmatrix} -0.408 & 0.707 & 0.577 \\ -0.408 & -0.707 & 0.577 \\ 0.816 & 0.0 & 0.577 \end{pmatrix}$**:** *1 point*

(a) (111)[1-10]; (b) (111)[-1-12]; (c) (1-10) [-1-12]; (d) (-1-12))[1-10];

- a
- b
- c
- d

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

5) **The $\varphi_1, \phi, \varphi_2$ rotation given by Bunge was obtained by:** *1 point*

(a) Rotating the crystal reference frame using the right-hand thumb rule so that it finally coincides with the specimen frame of reference
(b) Rotating the specimen frame of reference using the right-hand thumb rule so that it finally coincides with the crystal reference frame
(c) Rotating the crystal reference frame using the left-hand thumb rule so that it finally coincides with the specimen frame of reference
(d) Rotating the specimen frame of reference using the left-hand thumb rule so that it finally coincides with the crystal reference frame

- a
- b
- c
- d

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

6) The stacking fault energy of FCC materials: *1 point*

- (a) Affects the deformation texture evolution
- (b) Does not affect deformation texture evolution
- (c) Affects the recrystallization texture evolution
- (d) Does not affect recrystallization texture evolution

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) Affects the deformation texture evolution
(c) Affects the recrystallization texture evolution

7) What is grain boundary texture? *1 point*

- (a) Orientation relationship between sample and crystal reference frame.
- (b) Misorientation relationship between two adjacent crystal reference frame.
- (c) Both
- (d) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) Misorientation relationship between two adjacent crystal reference frame.

8) Texture represented by orientation matrix is: *1 point*

- (a) mathematically related to pole figure, inverse pole figure, and Euler Space
- (b) not related to pole figure, inverse pole figure, and Euler Space
- (c) mathematically related to the miller indices of the important sample reference directions
- (d) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) mathematically related to pole figure, inverse pole figure, and Euler Space
(c) mathematically related to the miller indices of the important sample reference directions

9) **The Euler angles $\varphi_1, \phi, \varphi_2$ rotation according to Bunge are in the sequence:** *1 point*

(a) φ_1 along RD, ϕ along TD, and φ_2 along ND
(b) φ_1 along ND, ϕ along RD, and φ_2 along TD
(c) φ_1 along ND, ϕ along RD, and φ_2 along ND
(d) φ_1 along ND, ϕ along TD, and φ_2 along RD

- a
- b
- c
- d

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

10) **The Goss texture component in the Euler space with $0° \leq \varphi_1, \phi, \varphi_2 \leq 90°$:** *1 point*

(a) Appears at three positions because of cubic crystal symmetry.
(b) Appears at three positions but not because of cubic crystal symmetry.
(c) Appears only at one position because of cubic crystal symmetry.
(d) Appears at more than three positions because of cubic crystal symmetry

- a
- b
- c
- d

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