

Course outline

How does an NPTEL online course work?

Week 0

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Week 11

 Lecture 48 : Texture in FCC polycrystals

 Lecture 49 : Texture in BCC polycrystals - I

 Lecture 50 : Texture in BCC polycrystals - II

 Lecture 51 : Texture in HCP polycrystals-I

 Lecture 52 : Texture in HCP polycrystals - II

 Lecture 53 : Texture in HCP polycrystals-III

 Week 11 Lecture Material

 Quiz: Week 11 : Assignment 11

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Assignment Solution

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Week 11 : Assignment 11

The due date for submitting this assignment has passed.

Due on 2021-10-13, 23:59 IST.

As per our records you have not submitted this assignment.

 1) Dynamic recovery is restricted in: 1 point

- (a) FCC material
- (b) High SFE material
- (c) Low SFE material
- (d) None of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c) Low SFE material

 2) Which of the following is true: 1 point

- (a) Cross-slip occurs in Edge dislocations
- (b) Cross-slip occurs in Screw dislocations
- (c) Dislocation climb occurs in Edge dislocations
- (d) Dislocation climb occurs in Screw dislocations

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b) Cross-slip occurs in Screw dislocations

(c) Dislocation climb occurs in Edge dislocations

 3) Twinning in FCC materials during deformation occurs: 1 point

- (a) in high SFE material
- (b) in low SFE material
- (c) when dynamic recovery is restricted
- (d) with dynamic recovery.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b) in low SFE material

(c) when dynamic recovery is restricted

 4) Which of the following is/are true about FCC materials' rolling texture? 1 point

- (a) α -fibre is referred to as $\langle 110 \rangle$ parallel to RD
- (b) γ -fibre is referred to as $\{111\}$ parallel to ND
- (c) β -fibre is referred to as $\langle 110 \rangle$ parallel to RD
- (d) τ -fibre is referred to as $\{110\}$ parallel to ND

No, the answer is incorrect.

Score: 0

Accepted Answers:

 (b) γ -fibre is referred to as $\{111\}$ parallel to ND

 5) Texture transition during rolling in FCC occurs because 1 point

- (a) Stacking fault energy
- (b) Temperature of deformation
- (c) Amount of deformation
- (d) Strain per pass.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Stacking fault energy

 6) The α , γ , and θ fibers in BCC polycrystals are: 1 point

- (a) Obtained during hot rolling
- (b) Observed in $\varphi_2 = 0^\circ$
- (c) Observed in $\varphi_2 = 45^\circ$
- (d) None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Obtained during hot rolling

 (c) Observed in $\varphi_2 = 45^\circ$

 7) The basal texture components after hot rolling in HCP materials with $c/a > 1.8$ forms at position: 1 point

- (a) shifted from ND and split towards RD.
- (b) at ND.
- (c) shifted from ND and split towards TD.
- (d) None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) shifted from ND and split towards RD.

 8) 1 point
 $\{10\bar{1}2\}\{10\bar{1}1\}$ extension twinning in Titanium evolves during?

- (a) compression along c-axis.
- (b) tension along c-axis.
- (c) tension along $\langle 10\bar{1}0 \rangle$ and $\langle 11\bar{2}0 \rangle$ axes.
- (d) compression perpendicular to both $\langle 11\bar{2}0 \rangle$ and $\langle 10\bar{1}0 \rangle$ axes.

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

 9) 1 point
 $\{10\bar{1}2\}\{10\bar{1}1\}$ type twins are:

- (a) Contraction twins for $\frac{c}{a} > \sqrt{3}$.
- (b) Extension twins for $\frac{c}{a} < \sqrt{3}$
- (c) Extension twins for $\frac{c}{a} > \sqrt{3}$.
- (b) Contraction twins for $\frac{c}{a} < \sqrt{3}$

- a
- b
- c
- d

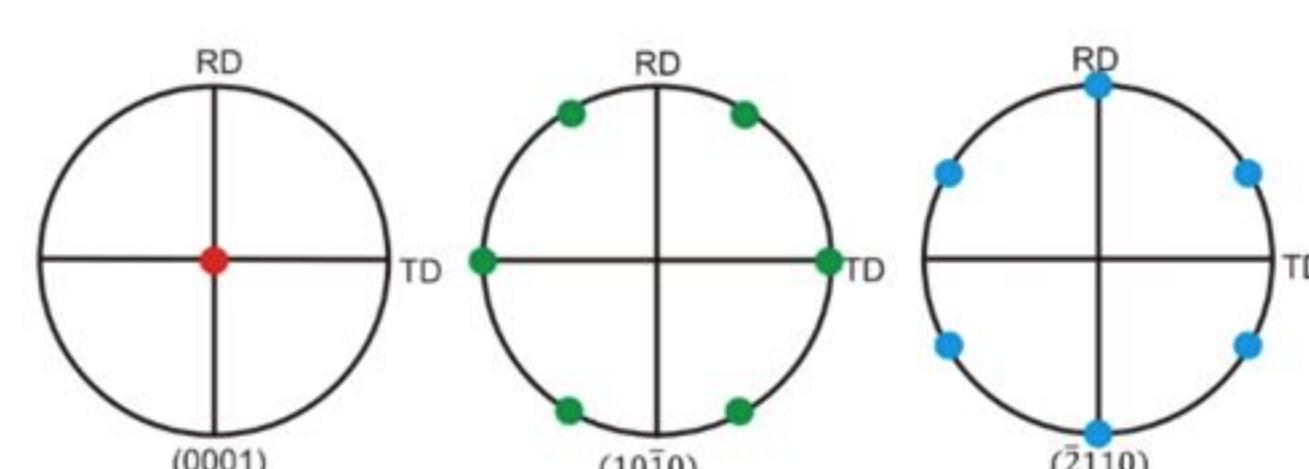
No, the answer is incorrect.

Score: 0

Accepted Answers:

a

b

 10) 1 point
What is the texture demonstrated in the figure below?


- (a) $\{0002\}\{10\bar{1}0\}$
- (b) $\{0002\}\{11\bar{2}0\}$
- (c) $\{10\bar{1}0\}\{11\bar{2}0\}$
- (d) $\{11\bar{2}0\}\{10\bar{1}0\}$

- a
- b
- c
- d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b