

Course outline

How does an NPTEL online course work?

Week 0

Week 1

 Lecture 01 : Introduction

 Lecture 02 : Texture and Anisotropy

 Lecture 03 : Processing - Texture - Anisotropic Properties

 Lecture 04 : Crystal Structure and Stereographic Projections

 Lecture 05 : Utilization of Stereographic Projections

 Week 1 Lecture Material

 Quiz: Week 1 : Assignment 1

 Feedback for Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

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Week 10

Week 11

Week 12

Download Videos

Assignment Solution

Live Interactive session

Week 1 : Assignment 1

The due date for submitting this assignment has passed.

Due on 2021-08-18, 23:59 IST.

As per our records you have not submitted this assignment.

- 1) The crystallographic texture does not refer to: **1 point**
- (a) Morphology of grains in a polycrystalline material
 - (b) Orientation of grains in polycrystalline materials
 - (c) Misorientation of geometrically necessary boundaries in a polycrystalline material
 - (d) Surface topography of polycrystalline material

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Morphology of grains in a polycrystalline material

(d) Surface topography of polycrystalline material

- 2) Anisotropy of a polycrystalline material is dependent on: **1 point**
- (a) Grain shape,
 - (b) Orientation,
 - (c) misorientation,
 - (d) grain size

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b) Orientation,

- 3) The greatest improvement in deep-drawing ability of sheet metals can be obtained by: **1 point**
- (a) Decreasing grain size
 - (b) Obtaining recrystallized microstructure
 - (c) Introducing high dislocation density
 - (d) Controlling crystallographic texture

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d) Controlling crystallographic texture

- 4) A single crystal has **1 point**
- (a) Strongest texture
 - (b) Weak texture
 - (c) Random texture
 - (d) No texture

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Strongest texture

- 5) Modulus of Elasticity: **1 point**
- (a) Is a material property and varies with texture.
 - (b) Is not a material property and varies with texture.
 - (c) Is a material property and does not vary with texture.
 - (d) Is not a material property and does not vary with texture.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Is a material property and varies with texture.

- 6) Texture in uniaxial plastic deformation can be described in terms of: **1 point**
- (a) Miller indices of the important direction
 - (b) Miller indices of the important plane
 - (c) Combination of miller indices of important plane and direction
 - (d) None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Miller indices of the important direction

- 7) Texture in biaxial plastic deformation can be described in terms of: **1 point**
- (a) Miller indices of the important direction
 - (b) Miller indices of the important plane
 - (c) Combination of miller indices of important plane and direction
 - (d) None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c) Combination of miller indices of important plane and direction

- 8) When does texture evolution occur: **1 point**
- (a) Solidification
 - (b) Phase transformation
 - (c) Plastic deformation
 - (d) Recrystallization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) Solidification

(b) Phase transformation

(c) Plastic deformation

(d) Recrystallization

- 9) Diffraction pattern from a textured polycrystalline material shows **1 point**
- (a) Concentric rings made up of isolated intensity spots
 - (b) Concentric rings of uniform intensity along the circumference
 - (c) Concentric rings of non-uniform intensity along the circumference
 - (d) Non-concentric rings

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c) Concentric rings of non-uniform intensity along the circumference

- 10) What is the most desirable texture for Fe-3%Si electrical steels used in power transformers? **1 point**
- (a) Bs;
 - (b) Goss;
 - (c) Cu;
 - (d) S.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b) Goss;