

NPTEL

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Courses » Fundamentals of X-ray diffraction and Transmission electron microscopy

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Announcements Course Ask a Question Progress

Unit 4 - Week 3

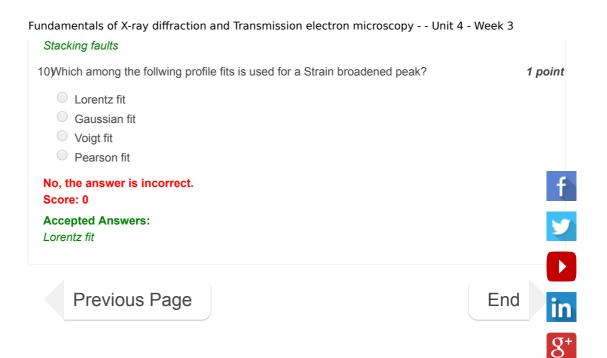


Course outline How to access the portal Week 1 Week 2 Week 3 Lecture 7 -Factors affecting intensities of Xray peakscontinuation O Lecture 8 -Effect of crystallite size and strain on intensity of Xrays O Lecture 9 -Profile fit, Factors affecting peak brodening Quiz: Week 3 -Assignment Week 4 Week 5 Week 6 Week 7 Week 8

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	Week 3 - Assignment	i
	The due date for submitting this assignment has passed. Due on 2016-08-14, 22:0 As per our records you have not submitted this assignment.	
	1) For a cubic crystal system, the multiplicity factor for the {111} family is?	1 poin
	6	
	128	
	○ 8 ○ 4	
	No, the answer is incorrect. Score: 0	
	Accepted Answers:	
	8	
	2) The unit of linear absorption coefficient is?	1 poin
	○ m ⁻¹	
	O m	
	○ m²	
	\circ m ^{1/2}	
	No, the answer is incorrect. Score: 0	
	Accepted Answers:	
	m^{-1}	
	3) What is the nature of relationship between Lorentz-Polarization factor with bragg angle?	1 poin
	Increases linaerly	
	Deacreases lineraly	
	Decreses parabolically to a value and then increases	
	 Increases parabolically to a value and then decreases 	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: Decreses parabolically to a value and then increases	
	4) The temperature factor pertaining to the intensity of the diffracted beams depends on?	1 poin
	Amplitude of thermal vibrations	

ResonanceDiffusion

Dispersion	
No, the answer is incorrect. Score: 0	
Accepted Answers: Amplitude of thermal vibrations	
5) Scherrer formula is used to calculate the?	1 point
Grain size Lattice parameter Crystallite size Particle size	f
No, the answer is incorrect. Score: 0	
Accepted Answers: Crystallite size	in
6) With the decrease in the crystallite size, what will happen to the diffraction peaks?	1 pc S
It will shift It will broaden It will disappear None of the above	
No, the answer is incorrect. Score: 0	
Accepted Answers: It will broaden	
7) Developement of unifrom starin in a crystal will lead to?	1 point
Peak shifting Peak broadening Asymmetry in the peaks None of the above No, the answer is incorrect. Score: 0 Accepted Answers:	
Peak shifting	4
8) In the Williamson-Hall plot, the slope of the straight line gives the? Microstrain in the material Crystallite size Lattice parameter Interplanar spacing	1 point
No, the answer is incorrect. Score: 0	
Accepted Answers: Microstrain in the material	
9) Which among the following factors cause asymmetry in the diffraction pattern?	1 point
Crystalliote size Microstarin Stacking faults Alloying	
No, the answer is incorrect. Score: 0 Accepted Answers:	



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