

NPTEL

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Courses » Heat Treatment and Surface Hardening-I

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Announcements

Course

Ask a Question

Progress

Unit 3 - Week-2



Course outline

How to access the portal?

Week-1

Week-2

- Thermodynamics of Phase Transformation and Driving Force for Phase Transformation
- Finding Value of Driving Force (ΔG) and Single Component (liquid-solid)
- Finding Value of Driving Force (ΔG) and Nucleation Single Component (liquid-solid)
- Nucleation
 Treatment
 Single
 Component
 (Solid-Liquid) I
- Nucleation
 Treatment
 Single
 Component
 (Solid-Liquid) -
- Quiz : Assignment-2
- Week 2Feedback
- Assignment-2 solution

Week-3

Week-4

Assignment-2

The due date for submitting this assignment has passed. **Due on 2018-02-21**, **23:59 IS** As per our records you have not submitted this assignment.

1 point

- 1) For some arbitrary reaction, the change in free energy is negative (DG< 0). Then, which one of the following statements is correct
 - (a) The reaction is spontaneous but it may or may not happen of its own.
 - (b) The reaction is spontaneous and will happen of its own.
 - (c) The reaction is non-spontaneous and will happen of its own.
 - (d) None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a) The reaction is spontaneous but it may or may not happen of its own.



1 point

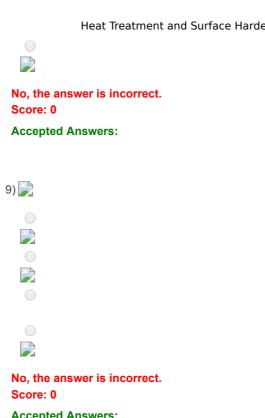
No, the answer is incorrect.

Score: 0

Accepted Answers:

- 3) By examining the schematic plots shown below, identify the correct 1 point answer.
 - \circ (a) plot (a) represents H vs. T (K) plot, plot (b) represents C_p vs. T (K) plot and plot (c) represents S vs. T (K) plot.
 - \circ (b) plot (a) represents S vs. T(K) plot, plot (b) represents H vs. T(K) plot and plot (c) represents C_p vs. T(K) plot.
 - \circ (c) Plot (a) represents C_p vs. T(K), plot (b) represents S vs. T(K) and Plot (c) represents H vs. T(K) plot.
 - o (d) plot (a) represents C_p vs. T(K) plot, plot (b) represents H vs. T(K) plot and plot (c) represents S vs. T(K) plot.

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Week-5	No, the answer is incorrect. Score: 0	
Week-6	Accepted Answers:	
Week-7	(d) plot (a) represents C_p vs. $T(K)$ plot, plot (b) represents H vs. plot (c) represents S vs. $T(K)$ plot.	T(K) plot and
Week-8	4)	1 point
	 (a) 47300-47400 J (b) 77300-77400 J (d) 87300-87400 J (d) 97300-98000 J 	f
	No, the answer is incorrect. Score: 0	
	Accepted Answers: (a) 47300-47400 J	in
	5)	1 pc S+
	 (a) Increase in term II but decrease in the term I. (b) Increase in the term I but decrease in term II. (c) Both the terms increase. (d) Both the terms decrease. 	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: (b) Increase in the term I but decrease in term II.	
	6)	1 point
	→ + ∨→ -∨→ +S→ -S	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: -S	
	7)	1 point
	-V -V +S -S	
	No, the answer is incorrect. Score: 0	
	Accepted Answers:	
	8)	1 point











Accepted Answers:

¹⁰Q10 By carefully examining the schematic plot shown below for 1 point pure metal, identify the correct statement for specific heat capacity (C_P) at $T=T_{m}$.

- \circ (a) The specific heat capacity is zero at T=T_m.
- \circ (b) The specific heat capacity is infinite at T=T_m.
- \circ (c) The specific heat capacity is given by some finite value at T=T_m.
- (d) None of these.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b) The specific heat capacity is infinite at $T=T_m$

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Funded by

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