2009 Spring **04. 01. 2009**

Advanced Physical Metallurgy
"Amorphous Materials"

Class # _____ Name _____

1. The glass transition is not a true second order transition but only a "pseudo" second order phase transition. Explain clearly the reason.

2. Explain controversies in amorphous solids at Kauzmann temperature.

3. Fill in the blank.

- Kanuzmann showed that the ( ) of a liquid ( ) rapidly on cooling toward the ( ) glass transition temperature and ( ) to unreasonable values at lower temperature. The temperature where the extrapolated statement of liquid entropy meets the ( ) is now called the ( ). ( ), with Planck's statement of the third law, shows that the entropy of a liquid cannot be ( ) than the entropy of a glass with the same ( ).

- ( ) and, more recently, their frequency extension have been proposed to be a measure of the number of ( ) processes involved in the ( ) of supercooled liquids.

less/ Kauzmann temperature/ Thermodynamics/ entropy/ decreases/ nonmascroscopic/ extrapolates/ relaxation dynamics/ kinetic/ crystal entropy/ Prigogine-Defay ratios / glass transition/

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