

Assignment 11

1) Solid solutions with ____ enthalpy of mixing show tendency to form ordered phases at low temperatures. **1 point**

- Negative
- Positive
- Zero
- Sometimes negative, sometimes positive

Accepted Answers:

Negative

2) B2 structure has ____ lattice . **1 point**

- Simple cubic
- BCC
- FCC
- HCP

Accepted Answers:

Simple cubic

3) Polygonized subgrain structure is obtained _____. **1 point**

- before recovery
- after recovery and before recrystallization
- after recrystallization and before grain growth
- after grain growth

Accepted Answers:

after recovery and before recrystallization

4) XRD patterns of _____ structures give rise to superlattice reflections. **1 point**

- only ordered
- only disordered
-

Accepted Answers:*only ordered*

- 5) Massive transformation is also known as
- diffusional transformation
 - diffusionless transformation
 - civilian transformation
 - military transformation

1 point

- only i and iv
 only i and iii
 only ii and iii
 only ii and iv

Accepted Answers:*only ii and iii*

- 6) Which of the following statements are true?
- recrystallization alters the dislocation density
 - recovery alters the dislocation density
 - Recrystallization temperature is higher than the recovery temperature
 - Recrystallization temperature is lower than the recovery temperature

1 point

- only i
 only i and iii
 only i and iv
 only ii and iii

Score: 0**Accepted Answers:***only i and iii*

- 7) Which of the following decreases the recrystallization temperature ?
- increase in amount of cold work
 - decrease in amount of cold work
 - increase in annealing time
 - decrease in annealing time

1 point

- only i and iv
 only ii and iii
 only i and iii
 only i

No, the answer is incorrect.**Score: 0****Accepted Answers:***only i and iii*

- 8) Which of the following is true for recovery?
- dislocation density is doubled
 - dislocation density remains unchanged
 - residual stresses are removed
 - residual stresses are unchanged

1 point

- only i
 only i and iii
 only i and iv
 only ii and iii

Accepted Answers:*only ii and iii*

- 9) The gamma to alpha transformation in iron can be massive if the cooling rate is ____ . **1 point**
- i. High enough to avoid transformation near equilibrium
 - ii. slow enough to avoid formation of martensite
 - iii. slow enough to avoid transformation near equilibrium
 - iv. high enough to avoid formation of martensite

- only i and ii
- only ii and iv
- only ii and iii
- only i and iv

Accepted Answers:*only i and ii*

- 10) Which of the following would negate the effect of cold working ? **1 point**

- strain hardening
- forging
- rolling
- annealing

Accepted Answers:*annealing*