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國立臺灣大學 104 學年度碩士班招生考試試題

科目：材料科學(B)

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1. (40 %) Please explain the following terms:
 - (a) Gibbs phase rule
 - (b) eutectic point
 - (c) dislocation
 - (d) glass transition temperature
 - (e) ductility
 - (f) strain hardening
 - (g) energy band gap
 - (h) dielectric constant
2. (20 %) What are the characteristics of conjugated polymers? Please give two examples. How can conjugated polymers be applied?
3. (20 %) Please explain/plot the crystal structures of NaCl and CsCl, respectively. Then give the indices of the crystalline planes for the first five X-ray diffraction peaks from low angle to high angle for these two systems.
4. (20 %) Please give the chemical structures of Nylon 6, Nylon 6.6, and Nylon 6.10, respectively. Please also describe and compare their properties.

試題隨卷繳回