

## 國立台灣科技大學九十五學年度碩博士在職專班招生試題

系所組別：材料科技研究所碩士在職專班

科 目：材料科技實務

總分 100 分

1. Composite materials are created by the combination of two or more materials to obtain specific characteristics and properties. Thermoset and thermoplastics are the two major types of composite matrixes. Explain the terms of thermoset and thermoplastics used in the composite matrixes. (20)
2. 請定義：差排(dislocations)，布格向量(Burgers vector)。並請將差排的分類，依差排線方向與布格向量間的關係定義清楚。(30)

請將第 3, 4, 5 題的英文翻譯成中文：

3. Increasing temperature normally reduces the strength of a material. Polymers are suitable only at low temperatures. However, some composites, special alloys, and ceramics, have excellent properties even at high temperatures. (20)
4. An ionic bond is created between two unlike atoms with different electronegativities. When sodium donates its valence electron to chlorine, each becomes an ion; attraction occurs, and the ionic bond is formed. (15)
5. Materials used in liquid crystal displays are amorphous in one state and undergo localized crystallization in response to an external electric field and are widely. (15)

