

國立中央大學97學年度碩士班考試入學試題卷

所別：機械工程學系碩士班 乙組(製造與材料) 科目：機械製造 共 / 頁 第 / 頁

\*請在試卷答案卷(卡)內作答

一、

1. Use the following keywords to describe Chvorinov's rule in *ENGLISH*. (less than 100 words) (20%)  
Keywords: surface area, casting, volume, solidification time.
2. Describe the spheroidite of eutectic steel in *ENGLISH*. (less than 100 words) (10%);  
Also sketch its microstructure and mark the phases of matrix and cementite.(5%)

參考用

二、

1. Compare the forming processes of wire drawing, conventional extrusion, and continuous extrusion with respect to continuity, reduction in area possible in a single operation, possible materials, speeds, typical temperatures, and other important processing variables.(15%)
2. Why is isothermal forming considerable more expensive than conventional hot forming.(10%)
3. Explain how hot-rolled products can have directional properties and residual stresses.(10%)

三、試針對下列幾個問題、詳述切削速度太快或太慢時產生的效應。

1. 對切削力的影響如何？(6%)
2. 對切削表面的影響如何？(6%)
3. 對切削刀具的影響如何？(6%)
4. 對切屑的影響如何？(6%)
5. 對組合刃尖(BUE)形成的影響如何？(6%)