

國立中央大學八十六學年度碩士班研究生入學試題卷

所別: 機械工程研究所 乙組 科目: 機械製造 共 / 頁 第 / 頁

一、
1. What is mechanical alloying? What are its advantages over conventional alloying of metals?(8%)

2 Describe briefly the production steps involved in making powder-metallurgy parts.(5%)

3 What is a solid solution? What is the difference between natural and artificial aging? What is the purpose of annealing? (12%)

二
(1) 請簡述“Expanded Polystyrene Process”的製程及特點?本製程較適合何種鑄件? 8%

(2) 請簡述接種處理過鑄件的微結構,常溫及高溫機械性質的特徵! 9%

(3) 有一鋁合金薄板(1 mm)欲施予永久結合,應施予何種焊接方法?簡述此種焊接法的製程! 8%

三、(a) What are some of the possible defects in drawn sheet metal parts? (5%)

(b) What are the reasons why the bulk deformation processes are important commercially and technologically? (10%)

(c) What are the functions of a well-designed electronics package? (10%)

四、

1、試說明切削加工中刀具前端形成之 BUE 為何物? (5%)

2、試說明如何防止 BUE 之形成? (10%)

3、試比較切削加工與放電加工的材料去除機理之差異及兩加工法的特点。(10%)