

# 淡江大學九十學年度碩士班招生考試試題

系別：機械工程學系

科目：機 械 製 造

准帶項目請打「○」否則打「×」	
計算機	字典
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本試題共 / 頁

NOTE:

- Write down your answers in Chinese or in English clearly.
- Close Books, Close Notes, Plan your time (100 min.).

1. DEFINE and COMPARE the following terms: (30%)
  - (a) sand casting and lost-wax casting,
  - (b) TIG and MIG,
  - (c) precision and accuracy,
  - (d) EDM and ECM,
  - (e) turning and milling.
2. (a) Give a brief explanation of Numerical Control (NC), CNC, and DNC;  
(b) Define and describe the 4-axis and 5-axis CNC machining centers. (10%)
3. Give and explain three metal forming processes. (10%)
4. (a) Describe and compare the Hot-Chamber Die Casting and Cold-Chamber Die Casting methods;  
(b) State the differences of die casting for metal products and injection molding for plastic products. (10%)
5. (a) List and explain three abrasive processes (including bonded and loose abrasives);  
(b) State the general influences of grain wear in abrasive machining processes. (10%)
6. Briefly state the manufacturing processes of the following industrial products: (30%)
  - (a) CD-R (光碟片)
  - (b) Hard disk platter (硬碟片)
  - (c) Silicon wafer (矽晶片)
  - (d) Optical fiber (光纖)
  - (e) PET bottle (寶特瓶)