

淡江大學九十三年學年度碩士班招生考試試題

系別：機械與機電工程學系

科目：機 械 製 造

准帶項目請打「○」否則打「x」
簡單型計算機
X

本試題共 / 頁

1. How would you go about avoiding center cracking defects in extrusion? Explain why your method would be effective. (10%)
2. What are the advantages and problems of creep-feed grinding? What would you do to minimize these problems? (10%)
3. Describe how degree of polymerization, molecular weight, cross-linking and degree of crystallinity affect polymer behavior? What causes the material to shrink during the injection molding process and what to do to reduce the shrinkage? (10%)
4. What functions do the "dressing" and "truing" serve to the grinding operation? What factors could contribute to chatter in grinding? (10%)
5. What is the underlying principle of ECM, EDM and ECG (electro-chemical grinding)? What factors are involved in the material removal rate and surface roughness in EDM, and why? (10%)
6. What is BUE(Built-up edge)? How does the BUE affect the surface finish and cutting tool? What would you do to minimize BUE? (10%)
7. Describe the difference between compound, progressive and transfer dies? (10%)
8. What are the benefits of (1) just-in-time (JIT) production (2) using a flexible manufacturing system (FMS) ?(10%)
9. Describe, from a microscopic point of view, how workpiece, chip and tool interact inside the primary shear (deformation) zone, secondary shear zone and flank shear zone. (10%)
10. Explain the terms roughness, waviness, form accuracy and cutoff. When using a surface roughness instrument, how would you go about determining the cutoff value? (10%)