

淡江大學 107 學年度日間部寒假轉學生招生考試試題

系別：化學工程與材料工程學系二
年級

科目：普通化學

4-1

考試日期：1月13日(星期日) 第1節

本試題共 5 大題， 1 頁

- (30 pts) Name the following elements and compounds.
(a) F (b) Al (c) N (d) H_3PO_4 (e) K_2CO_3 (f) Mo
- (20 pts) Using VSEPR to predict the structures of molecules with 5 electron pairs around the central atom for (a) AB_5 (b) AB_3 .
- (20 pts) How does molecular orbital theory explain the following observation?
 O_2 is paramagnetic and N_2 is diamagnetic.
- (10 pts) Which of the following statement is true concerning the masses of individual boron atoms? (a,m,u.: atomic mass unit)
(a) All atoms have a mass of 10.81 a.m.u.
(b) None of the atoms has a mass of 10.81 a.m.u.
(c) Some of the atoms have a mass of 10.81 a.m.u.
(d) Most of the atoms have a mass of 10.81 a.m.u.
(e) All atoms have a mass of 11 a.m.u.
(f) None of the above
- (20 pts) For a catalytic reaction, which of the following is/are changed?
(a) activation energy
(b) reactants
(c) transition state
(d) ΔE of products and reactants
(e) reaction pathway