

大同大學 107 學年度 (寒假)轉學入學考試試題

考試科目:普通化學 系別:材料工程學系 第貳頁

註:本次考試 不可以參考自己的書籍及筆記; 不可以使用字典; 不可以使用計算器。

1. 請任意寫出下列元素的中文及英文元素符號總共30個: 30 %

Oxygen, Silicon, Aluminum, Calcium, Sodium, Magnesium, Tin, Argon,

Copper, Hydrogen, Gold, Silver, Titanium, Lead, Potassium, Sulfer, Vanadium

2. Explained the follow terms(解釋以下名詞): (必須詳述其物理意義及相關公式) 20 %

a/. London dispersion force

b/. Oxidation-reduction reactions

c/. 原子的構造(包含3種)

d./ Cation and Anion

e./ Precipitation reaction

f./ Body-centered cubic and face-centered cubic

3. 翻譯成中文: (參考選10個) (20%)

1. ionization,

2. Orbital,

3. Concentration,

4. transition metal

5. half-life,

6. heat of fusion,

7. atmosphere,

8. Molarity,

9 . polymer,

10. solubility ,

11.electrolysis

參考:半生命期, 電離, 軌道, 融合熱, 氣氛, 折射率, 密度, 熔點, 沸點, 溫度,, 集中, 過渡金屬, 摩爾濃度, 聚合物, 硬度, 溶解度, 傳熱, 導電性, 電解, 延展性, 質量

4. 寫出下列化合物的構造: (20%)

a/ aluminum oxide, b/ sodium chloride, c/. methanol, d/. calcium hydrogen carbonate

e/. carbon monoxide, f/. magnesium sulfate, g. Cesium chloride, h. Copper(II) bromide

i. acetic acid, j. Nittrogen dioxide

5. Translation the follow sentence(翻譯以下句子): 任選2個 (10%)

(a) First Law of Thermodynamics: The total amount of energy in the universe is constant (also known as the Law of Conservation of Energy); energy is neither created nor destroyed in ordinary chemical reactions and physical changes.

(b) Boiling Point: The temperature at which the vapor pressure of a liquid is equal to the external pressure; also the condensation point.

(c) Triple point: The point on a phase diagram that corresponds to the only pressure and temperature at which three phases (usually solid, liquid, and gas) of a substance can coexist at equilibrium.