

銘傳大學 96 學年度轉學生招生考試

生物科技學系

7 月 26 日 第四節

普通化學試題

(第 1 頁共 2 頁)

(限用答案本作答)

可使用計算機

不可使用計算機

1. The recommended daily allowance (RDA) of calcium is 1.2 g. Calcium carbonate contains 12.0% calcium by mass. How many grams of calcium carbonate are needed to provide the RDA of calcium?
(8%) (a) 0.1g ; (b) 0.14g ; (c) 1.2 g ; (d) 10 g ; (e) 14 g.

2. The segment
$$\begin{array}{ccccccc} & & -CH_2 & CH & CH_2 & CH & CH_2 & CH- \\ & & & | & & | & & | \\ & & & Cl & & Cl & & Cl \end{array}$$
 represents the polymer named :
(9%) (a) polybutylene.
(b) polyvinyl chloride.
(c) polypropylene.
(d) polystyrene.
(e) polyethylene.

3. A protein is
(9%) (a) a polysaccharide.
(b) a saturated ester of glycerol.
(c) one of the units making up a nucleic acid.
(d) a polymer of amino acids.
(e) an aromatic hydrocarbon

4. Which of the following is a product of the hydrolysis of DNA?
(9%) (a) acetic acid.
(b) glucose.
(c) adenine.
(d) ribose.
(e) water

5. In the coordination compound $[Pt(NH_3)_2Cl_2]$, the coordination number and oxidation number of the central atom are, respectively,
(9%) (a) 2, 0.
(b) 4, 4.
(c) 4, 2.
(d) 5, 0.
(e) 6, 2.

本試題兩面印刷

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(第二頁共二頁)

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6. Equilibrium is established for the reaction $2X(s) + Y(g) \leftrightarrow 2Z(g)$ at 500K, $K_c = 100$. Determine the concentration of Z in equilibrium with 0.2 mol X and 0.50 M Y at 500K. (9%)
(a) 3.2M ; (b) 3.5M ; (c) 4.5M ; (d) 7.1M ; (e) None of these.
7. Which response includes *all* the following processes that are accompanied by an *increase* in entropy? (9%)
(1). $2SO_2(g) + O_2(g) \rightarrow SO_3(g)$
(2). $H_2O(l) \rightarrow H_2O(s)$
(3). $Br_2(l) \rightarrow Br_2(g)$
(4). $H_2O_2(l) \rightarrow H_2O(l) + (1/2)O_2(g)$
(a) 1, 2, 3, 4. (b) 1, 2. (c) 2, 3, 4. (d) 3, 4. (e) 1, 4.
8. A spontaneous endothermic reaction always (9%)
(a) releases heat to the surroundings.
(b) bursts into flame.
(c) requires a spark to initiate it.
(d) causes the surroundings to get colder.
(e) is large activation energy.
9. The geometry of the SF_4 molecule is (9%)
(a) tetragonal pyramidal.
(b) trigonal pyramidal.
(c) trigonal planar.
(d) square planar.
(e) distorted tetrahedron (see-saw).
10. Determine the molar mass of chloroform gas if a sample weighing 0.389 g is collected in a flask with a volume of 102 cm^3 at 97°C . The pressure of the chloroform is 728 mmHg. (>0%)

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試題完