

VCE

CHEMISTRY

UNIT 1

TRIAL EXAM

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CHEMISTRY ASSOCIATES 1997

CHEMISTRY IN A PRACTICAL CONTEXT

Put a line through
e.g. A B ~~C~~ D

STUDENT ANSWER SHEET

the correct response

(1) A B C D

(11) A B C D

(2) A B C D

(12) A B C D

(3) A B C D

(13) A B C D

(4) A B C D

(14) A B C D

(5) A B C D

(15) A B C D

(6) A B C D

(16) A B C D

(7) A B C D

(17) A B C D

(8) A B C D

(18) A B C D

(9) A B C D

(19) A B C D

(10) A B C D

(20) A B C D

VCE CHEMISTRY UNIT 1
CHEMISTRY IN A PRACTICAL CONTEXT
SAMPLE ONLY

Important Note: There are no tests prescribed for Unit 1 VCE Chemistry. However, many schools may choose to do tests to prepare students for the external CATS required by Units 3 & 4 VCE Chemistry.

This is one possible multiple choice test on Chemistry in a Practical Context that could be given to students who have studied Unit 1.

13 questions relate to the key ideas on Useful Materials. 7 questions relate the key ideas on Waste Materials

Page 1

For each of the following , put a line through the correct response on the answer sheet provided.

Item 1

Which one of the following is most likely to be a good conductor of electricity?

- A. solid sodium chloride
- B. iron
- C. water
- D. polyethylene

Item 2

Of the following, the material most resistant to scratching would be

- A. soda glass.
- B. iron.
- C. diamond.
- D. ice.

Item 3

In the positively charged ion, ${}^{23}_{11}\text{Na}^+$, the numbers of protons, neutrons and electrons are respectively

- A. 11 , 12 , 10.
- B. 11 , 12 , 13.
- C. 11 , 23 , 10.
- D. 11 , 23 , 13.

Item 4

Of the following materials, the one most likely to show both covalent bonding and hydrogen bonding is

- A. hydrogen.
- B. ethylene.
- C. ethanol.
- D. methane.

Item 5

The properties of a metal can be modified using the process of alloying . In this process

- A. the metal is mixed with other metals in fixed proportions.
- B. the metal is mixed with other metals in variable proportions.
- C. the metal is mixed with other metals or non-metals in fixed proportions.
- D. the metal is mixed with other metals or non-metals in variable proportions.

Item 6

A hard and brittle metal would most likely be produced by the process of

- A. annealing.
- B. quenching.
- C. tempering.
- D. a combination of two of the above.

Item 7

Of the following list of fibres, the synthetic fibre is

- A. wool.
- B. cotton.
- C. asbestos.
- D. nylon.

Item 8

Which one of the following is **not** a possible carbon compound?

- A. $\text{CH}_3\text{CH}_2\text{OH}$
- B. $\text{CH}_3\text{CH}_3\text{OH}$
- C. CH_3COOH
- D. CH_3CHO

Item 9

Which one of the following is a thermosetting polymer?

- A. nylon
- B. polypropylene
- C. urea-formaldehyde
- D. polyester

Item 10

The chemical formula for aluminium sulfate is

- A. $\text{Al}_2(\text{SO}_4)_3$
- B. $\text{Al}_3(\text{SO}_4)_2$
- C. $\text{Al}_2(\text{SO}_3)_3$
- D. $\text{Al}_3(\text{SO}_3)_2$

Item 11

Of the following monomers, the pair most likely to undergo addition polymerisation are

- A. $\text{CHCl}=\text{CHCl}$ and $\text{CHCl}=\text{CHCl}$
- B. $\text{NH}_2(\text{CH}_2)_6\text{NH}_2$ and $\text{ClOC}(\text{CH}_2)_4\text{COCl}$
- C. $\text{C}_6\text{H}_5\text{OH}$ and HCHO
- D. C_2H_6 and Cl_2

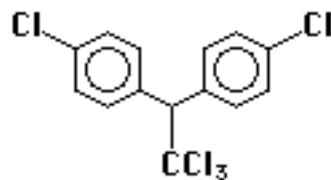
Item 12

The general chemical formula for the homologous series known as the alkanes is

- A. C_nH_{2n-2}
- B. C_nH_{2n}
- C. C_nH_{2n+1}
- D. C_nH_{2n+2}

Item 13

The empirical formula of the structure shown below is



DDT (Insecticide)

- A. $C_{14}H_9Cl_5$
- B. $C_{13}H_{12}Cl_5$
- C. $C_{12}H_9Cl_5$
- D. $C_{11}H_{12}Cl_3$

Item 14

Which one of the following materials is **not** involved in the formation of photochemical smog?

- A. C_8H_{18}
- B. CO
- C. NO
- D. NO_2

Item 15

The balanced equation for the complete combustion of heptane (C_7H_{16}) in the internal combustion engine is

- A. $C_7H_{16}(l) + 7O_2(g) = 7CO_2(g) + 8H_2O(g)$
- B. $C_7H_{16}(l) + 11O_2(g) = 7CO_2(g) + 8H_2O(g)$
- C. $2C_7H_{16}(l) + 15O_2(g) = 14CO(g) + 16H_2O(g)$
- D. $2C_7H_{16}(l) + 7O_2(g) = 14CO(g) + 16H_2O(g)$

Item 16

It is found that DDT is present in plant material at a concentration of 6 ppm. The number of grams of DDT in 1 kilogram of this plant material is

- A. $1000 \times \frac{6}{10^6}$
- B. $1000 \times \frac{10^6}{6}$
- C. $1 \times \frac{6}{10^6}$
- D. $1 \times \frac{10^6}{6}$

Item 17

Which one of the following would be best described as an **intractable** waste material?

- A. Al
- B. $\text{CaSiO}_3 \cdot \text{Na}_2\text{SiO}_3 \cdot 2\text{SiO}_2$
- C. $\text{Pb}(\text{C}_2\text{H}_5)_4$
- D. O_3

Item 18

Which one of the following would be best described as a **biodegradable** waste material?

- A. glass
- B. aluminium
- C. oil
- D. carbon monoxide

Item 19

The most appropriate method to obtain pure water from a sample of salty water is

- A. filtration using a very fine mesh filter paper.
- B. distillation.
- C. addition of silver nitrate to precipitate the silver chloride.
- D. addition of an acid to neutralise the salt.

Item 20

The amount of energy required to produce 1 tonne (10^6 g) of aluminium is approximately 17 500 kWh. The energy required to produce a piece of aluminium weighing 50 g would be

- A. 875 kWh.
- B. 87.5 kWh
- C. 8.75 kWh.
- D. 0.875 kWh.

END OF UNIT 1 SAMPLE EXAMINATION

CHEMISTRY IN A PRACTICAL CONTEXT

SOLUTIONS

(1) A ~~B~~ C D

(2) A B ~~C~~ D

(3) ~~A~~ B C D

(4) A B ~~C~~ D

(5) A B C ~~D~~

(6) A ~~B~~ C D

(7) A B C ~~D~~

(8) A ~~B~~ C D

(9) A B ~~C~~ D

(10) ~~A~~ B C D

(11) ~~A~~ B C D

(12) A B C ~~D~~

(13) ~~A~~ B C D

(14) A ~~B~~ C D

(15) A ~~B~~ C D

(16) ~~A~~ B C D

(17) A B ~~C~~ D

(18) A B ~~C~~ D

(19) A ~~B~~ C D

(20) A B C ~~D~~