COLLEGE PRIVE BILINGUE MONTESQUIEU

MONTESQUIEU PRIVATE BILINGUAL HIGH SCHOOL

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REPUBLIC OF CAMEROON

PEACE - WORK – FATHERLAND

ANNEE SCOLAIRE 2026/2027

FIRST SEQUENCE CHEMISTRY Examination, OCTOBER 2026

FORM FIVE

SECTION A/ GENERAL KNOWLEGDE(20mks) TIME 120mins

1. Gases can be converted to liquids at low temperatures. This change of state from gas to liquid is called?

   A Condensation
   B Evaporation
   C Sublimation
   D Melting

2. Why are sodium hydroxide pellets stored in tightly closed container?

   A To prevent it from absorbing moisture and turning to solution
   B To Prevent it from sunlight
   C To prevent it from reacting with acid
   D To prevent the loss of water of crystallization

3. An element has electronic configuration of 2:8:18:7. Identify the group and period number of the element.

	Group	Period
A	7	4
B	VII	IV
C	VII	4
D	IV	7

4. Which of the processes below does not require a catalyst

   A Contact Process
   B Frasch process
   C Haber process
   D Ostwald process

5. Naturally occurring Boron contains 20% Boron-10 ($^{10}_{5}BB$) and 80% Boron-11 ($^{11}_{5}BB$). The RAM of

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Boron is

A 8.8
B 10.8
C 10.0
D 10.8

6. Identify an element which is soft and can be cut with a knife.
   A Ca
   B Mg
   C K
   D Cu
7. When a piece of sodium is dropped in ethanol (C_2H_5OH), effervescence occurs and a gas is released. Identify the gas.
   A Carbon dioxide
   B Hydrogen
   C Oxygen
   D Steam
8. How many moles of water are present in 180g of water? (RMM = 18)
   A 10.0 moles
   B 6.02×10^{23} moles
   C 0.10 moles
   D 180 moles

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9. An element X forms two ions X^{2+} and X^{+}, identify one element that could be X.
   A P
   B Mg
   C Al
   D Cu

10. State one property of an acid.
   A Has a pungentsmell
   B Has a sour taste
   C Has a bitter taste
   D Has a fruitysmell

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11. A solution was tested with red litmus paper and the paper turned blue. Suggest the pH of the solution.
   A 2
   B 5
   C 6
   D 12
12. Sodium has an atomic number of 11 and a mass number of 23. How many protons and neutrons has an atom of sodium?

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A 12 protons and 11 neutronsB 11 protons and 12 neutrons

C 11 protons and 23 neutronsD 23 protons and 11 neutrons

QUESTIONS 13 TO 16 CONCERN THE NUCLIDE REPRESENTED BELOW

$^{14}_{7}N$

13) The number 14 represents **a) The atomic number b) The mass number c) The number of neutrons d) Period number.**

14) The number 7 represents; **a) the atomic number b) the mass number c) the number of neutrons d) period number.**

15) Another name for the number 14 is; **a) proton number b) nucleon number c) electron number d) neutron number.**

16) The number 7 is also called; **a) proton number b) nucleon number c) neutron number d) period number.**

17) In the neutral atom, **a) the number of protons equals the number of electrons b) The number of protons is greater than the number of electrons c) The number of protons is less than the number of electrons. D) The number of electrons is greater than the number of protons.**

18) Which of the following is true about isotopes? **A) They have the same number of neutrons b) they have the same number of protons c) they have more protons than neutrons d) they always have identical physical properties.**

19) The heat change or energy contents of a system is called a) kinetic energy b) potential energy c) Enthalpy d) intrinsic energy.

20) A minimum amount of energy required to start a reaction is called; a) a chemical energy b) starting energy c) enthalpy d) activation energy.

SECTION B: STRUCTURED QUESTIONS, ANSWER ANY FOUR QUESTIONS IN THIS SECTION (30mks)

1.Study the incomplete periodic table below concerning the letter A to G **(where these letters are not the usual symbols of the elements)** and answer the questions that follow.

I	II				III	IV	V	VI	VII	VIII
	A					B				
C									D	E
			G							
F										

a)Identify any two elements that will have similar chemical properties

.....1mk

b)Which of the elements is a transition metal?

.....1mk

c) Select an element that hardly forms compounds

.....1mk

d) Element **B** and **hydrogen** react to form a compound

(i) Write down the formula of the compound formed between B and Hydrogen.

.....1mk

(ii) What type of bond is found in the compound formed in d(i) above?

.....1mk

(iii) Using dot and cross diagrams, draw the bonding in the compound d(i) above

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(2mks)

e) Element D occurs naturally as $^{35}_{17}D$ and $^{37}_{17}D$ in the ratio 75 : 25 respectively.

(i) What name is given to the two forms of D?

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(ii) Which sub-atomic particle is responsible for the phenomenon in e(i) above

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(iii) Determine the relative atomic mass of D.

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(3mks)

8. a) Define heat of neutralization

b) Describe an experiment that is used to determine the enthalpy of neutralization of hydrochloric acid (HCl) by sodium hydroxide (NaOH) in the laboratory. Your description should end with the collection of data.

c) Calculate the heat of neutralization, stating any assumption made if in one such experiment, a student added $50cm^3$ of 2 M NaOH to $50cm^3$ of 2 M HCl in a plastic cup and obtained the following data:

Initial temperature of HCl = 25^oC

Initial temperature of NaOH = 25.2^oC

Highesttemperature of mixture = 28.8^oC

d) If this experiment is repeated using ethanoic acid as a replacement of hydrochloric acid, will the heat of neutralization be less or more than that obtained in this experiment? Explain.

(2, 12, 4, 2 mks)

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