

Coaching Report

Partecipante	Damiano Perri	Dettaglio studente	User_30
Gruppo	ntc.it ats.perugia.it	Stato	Finito normalmente
Nome valutazione	General Chemistry 1 - EN V4	Punteggio finale	15
Tempo usato	00:01:25	Tempo limite (min)	60
Data	13-09-2016 11:00:59		

Domande - presented: 30, answered: 30

1 Which of the following hazard symbols indicates the presence of a strong oxidant ?



Tipo domanda	Argomento	Life Span of Material
Difficolt�	2/3	
Punteggio	0.0	
Punteggio massimo	1	
Risposta scelta	not ok	
Risposta	0) 310,103,400,191	

2 Which of the following hazard symbols indicates the presence of a strong oxidant ?



Tipo domanda	Argomento	Life Span of Material
Difficolt�	2/3	

Punteggio	0.0
Punteggio massimo	1
Risposta scelta	not ok
	a thin, black, water paint.
Risposta	0) 105,94,211,198

3 The relative atomic masses of carbon, oxygen and aluminium are the following:

C: 12.01

O: 16.00

Al: 26.98

Select which one of the following statements is correct !



Tipo domanda	Risposta singola
Argomento	Atoms and Elements
Difficolt�	2/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	There are more atoms in 12.01 g of carbon than in 16.00 g of oxygen
Risposta	<p>0) There are the same number of atoms in 1 mol of each of these elements.</p> <p>1) There are the same number of atoms in 1 g of each of these elements.</p> <p>2) There are less atoms in 1 g of carbon than in 1 g of any of the other elements</p> <p>3) There are more atoms in 1 g of aluminum</p>

than in 1 g of one of the other elements

4) There are more atoms in 12.01 g of carbon
than in 16.00 g of oxygen

4	What is the correct statement about chemical substances?
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Tipo domanda	Risposta singola
Argomento	Atoms and Elements
Difficoltà	2/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	Substances, which consist of identical molecules, are always elements.
Risposta	<p>0) Pure substances consist of atoms; mixtures consist of molecules.</p> <p>1) Natural substances consist of atoms; synthetic substances consist of molecules.</p> <p>2) Substances which consist of identical molecules, can be elements or are compounds.</p> <p>3) Substances, which consist of identical molecules, are always elements.</p> <p>4) When chemical substances undergo a change in state, the composition of their molecules always changes.</p>

5	Fe²⁺ ion contains 26 electrons . What is the nuclear charge of Fe²⁺ ?
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Tipo domanda	Risposta singola
Argomento	Atoms and Elements
Difficoltà	2/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	-24
Risposta	0) -26 1) -24 2) 28 3) -28 4) 0

6 An unknown quantity of a mixture of calcium carbonate (CaCO_3) and magnesium carbonate (MgCO_3) is heated and decomposed completely into calcium oxide (CaO), magnesium oxide (MgO) and carbon dioxide (CO_2). Which one of the following quantities has to be known in order to calculate the amount of calcium carbonate in the initial mixture ?



Tipo domanda	Risposta singola
Argomento	Types of Chemical Reactions
Difficoltà	2/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	The mass of CO_2 produced
Risposta	0) The mass of CaO produced 1) The mass of CO_2 produced 2) The mass of MgO produced

- 3) The sum of the masses of CaO and MgO produced
- 4) Volume of CO₂ produced (at the standard temperature and pressure)

7 Which one of the following represents a chemical change ?



Tipo domanda	Risposta singola
Argomento	Types of Chemical Reactions
Difficoltà	2/3
Punteggio	3.30
Punteggio massimo	1
Risposta scelta	tarnishing of silver
Risposta	<p>0) tarnishing of silver</p> <p>1) condensation of steam</p> <p>2) dissolving sugar in water</p> <p>3) forming iron filings from iron</p> <p>4) distilling water</p>

8 Copper reacts with concentrated sulfuric acid as represented by the following equation: $\text{Cu} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{SO}_2 + 2\text{H}_2\text{O}$ Which one of the following statements about the reaction is true ?



Tipo domanda	Risposta singola
Argomento	Types of Chemical Reactions
Difficoltà	2/3
Punteggio	0.00
Punteggio massimo	1

Risposta scelta

Sulfuric acid is a reducing agent.

Risposta

0) Copper is oxidised.

1) Sulfuric acid is oxidised.

2) Sulfuric acid is a reducing agent.

3) Copper is reduced.

4) Hydrogen is a reducing agent.

9 The chemical formula of copper(II) sulfate is...



Tipo domanda

Risposta singola

Argomento

Chemical Bonding

Difficoltà

2/3

Punteggio

0.00

Punteggio massimo

1

Risposta scelta

CuS

Risposta

0) CuS

1) Cu₂S

2) Cu₂SO₄

3) CuSO₄

4) Cu(SO₄)₂

10 Which two of the following substances are water soluble ?



Tipo domanda

Risposta multipla

Argomento

Chemical Bonding

Difficoltà

2/3

Punteggio

0.66

Punteggio massimo

1

Risposta scelta

KI - ionic substance

copper - metallic substance

Risposta

0) I₂ - molecular substance

1) CH₃OH - polar molecular substance

2) C₇H₈ - non-polar molecular substance

3) KI - ionic substance

4) copper - metallic substance

11

At school Paul carried out the following chemical reaction: potassium hydroxide (aq) + sulfuric acid (aq) → potassium sulfate(aq) + water(l) This reaction can be classified as:



Tipo domanda

Risposta singola

Argomento

Types of Chemical Reactions

Difficoltà

1/3

Punteggio

0.00

Punteggio massimo

1

Risposta scelta

oxidation

Risposta

0) neutralisation

1) oxidation

2) precipitation

3) reduction

4) condensation

12

Tick the chemical you would use to prove that a rock contains calcium carbonate.



Tipo domanda

Risposta singola

Argomento	Types of Chemical Reactions
Difficoltà	1/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	potassium oxalate solution
Risposta	0) potassium oxalate solution 1) calcium hydroxide solution 2) hydrochloric acid 3) sodium hydroxide solution 4) sodium carbonate solution

13 Select three items that are soluble in water



Tipo domanda	Risposta multipla
Argomento	Chemical Bonding
Difficoltà	1/3
Punteggio	0.33
Punteggio massimo	1
Risposta scelta	Sodium chloride Sugar Barium sulfate BaSO ₄
Risposta	0) Sodium chloride 1) Ammonia NH ₃ 2) Sugar 3) Gold 4) Barium sulfate BaSO ₄

14 Select the items that are soluble in water



Tipo domanda	Risposta multipla
Argomento	Chemical Bonding
Difficolt�	1/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	Vinegar
	Butter
Risposta	0) Snow
	1) Vinegar
	2) Sugar
	3) Concrete
	4) Butter

15 Move the marker to the filtration funnel in the figure.



Tipo domanda	Argomento	Life Span of Material
Difficolt�	1/3	
Punteggio	0.0	
Punteggio massimo	1	
Risposta scelta	not ok	
	alizarin	
Risposta	0) 278,0,352,85	

16 The label on a bottle of mineral water purchased in a supermarket shows that this water contains among others the following ions, in milligrams per litre. From the list, select the alkali metal ions.



Tipo domanda	Risposta multipla
Argomento	Life Span of Materials
DifficoltÃ	1/3
Punteggio	3.30
Punteggio massimo	1
Risposta scelta	Potassium 3 Sodium 15
Risposta	0) Calcium 114 1) Magnesium 16 2) Potassium 3 3) Chloride 28 4) Sodium 15

17 Which one of the following elements forms an oxide which turns red litmus paper blue when added to water ?



Tipo domanda	Risposta singola
Argomento	Atoms and Elements
DifficoltÃ	1/3
Punteggio	3.30
Punteggio massimo	1
Risposta scelta	calcium
Risposta	0) phosphorus 1) carbon 2) bromine 3) sulphur 4) calcium

18 The label on a bottle of mineral water purchased in a supermarket shows that the product contains among others the following ions, in milligrams per litre. From the list, select one ion which might be harmful to your health in a concentrations 10 times higher than what is listed here ?



Tipo domanda	Risposta singola
Argomento	Life Span of Materials
Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	Sulfate 15
Risposta	0) Magnesium 16 1) Nitrate 9 2) Bicarbonate 400 3) Sulfate 15 4) Sodium 15

19 Which two of the following metals are recycled in greatest amounts by mass in the world?



Tipo domanda	Risposta multipla
Argomento	Life Span of Materials
Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	sodium gold

Risposta

- 0) gold
- 1) iron
- 2) aluminium
- 3) sodium
- 4) tin

20 Elementary oxygen is found in two forms: oxygen O₂ and ozone O₃. Compare 10 g of O₂ and 10 g of O₃. What is the only true statement in the following list ?



Tipo domanda

Risposta singola

Argomento

Atoms and Elements

Difficoltà

3/3

Punteggio

0.00

Punteggio massimo

1

Risposta scelta

The O₃ sample contains more atoms.

Risposta

- 0) The two samples contain the same number of atoms.
- 1) The O₂ sample contains more atoms.
- 2) The O₃ sample contains more atoms.
- 3) The O₃ sample contains more molecules.
- 4) The two samples contain the same number of molecules.

21 The number of atoms in three molecules of ammonia, NH₃, is:



Tipo domanda

Risposta singola

Argomento

Atoms and Elements

Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	1
Risposta	0) 12 1) 1 2) 3 3) 4 4) 10

22 What is the correct chemical formula of potassium phosphate ?



Tipo domanda	Risposta singola
Argomento	Atoms and Elements
Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	K(PO ₄) ₃
Risposta	0) K ₃ PO ₄ 1) KH ₂ PO ₄ 2) KPO ₃ 3) K(PO ₄) ₃ 4) K ₃ (PO ₃) ₂

23 When marble pieces are added to hydrochloric acid, the following reaction takes place:

$$\text{CaCO}_3(\text{s}) + 2\text{HCl}(\text{aq}) \rightarrow \text{CaCl}_2(\text{aq}) + \text{H}_2\text{O}(\text{l}) + \text{CO}_2(\text{g})$$

Which of the following actions would increase the rate of formation of carbon



Tipo domanda	Risposta multipla
Argomento	Types of Chemical Reactions
Difficoltà	3/3
Punteggio	0.66
Punteggio massimo	1
Risposta scelta	Adding water to the reaction mixture Reducing the size of the marble pieces
Risposta	0) Reducing the size of the marble pieces 1) Heating the reaction mixture 2) Adding water to the reaction mixture 3) Using nitric acid instead of hydrochloric acid 4) Collecting the carbon dioxide in a gas cylinder.

24 When a small piece of metallic sodium is added to liquid water, sodium hydroxide is formed. This reaction is...



Tipo domanda	Risposta singola
Argomento	Types of Chemical Reactions
Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	exothermic because there is a transfer of energy from the surroundings to the system
Risposta	0) endothermic because there is a transfer of

energy from the system to the surroundings

1) exothermic because there is a transfer of energy from the system to the surroundings

2) endothermic because there is a transfer of energy from the surroundings to the system

3) exothermic because there is a transfer of energy from the surroundings to the system

4) called reduction of sodium

25 Choose the two actions which make the pH value decrease .



Tipo domanda

Risposta multipla

Argomento

Types of Chemical Reactions

Difficoltà

3/3

Punteggio

0.00

Punteggio massimo

1

Risposta scelta

evaporating water from a sodium hydroxide solution

adding water to an acid solution

Risposta

0) adding water to an acid solution

1) adding sodium hydroxide solution to water

2) adding hydrochloric acid to a sodium hydroxide solution

3) evaporating water of a sulfuric acid solution

4) evaporating water from a sodium hydroxide solution

26 The chemical symbol of oxide ion is:



Tipo domanda	Risposta singola
Argomento	Chemical Bonding
Difficoltà	3/3
Punteggio	0.00
Punteggio massimo	1
Risposta scelta	O-
Risposta	0) O 1) O ₂ 2) O- 3) O ₂ - 4) O ₂ +

27	What type of chemical bonds exist in ammonium chloride NH₄Cl?
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Tipo domanda	Risposta singola
Argomento	Chemical Bonding
Difficoltà	3/3
Punteggio	3.30
Punteggio massimo	1
Risposta scelta	Covalent N-H bonds and ionic bond between chloride ion and ammonium nitrogen
Risposta	0) Covalent N-H bonds and ionic bond between chloride ion and ammonium nitrogen 1) Covalent bonds N-Cl, hydrogen bonds N- H 2) Hydrogen bonds H-H , Cl-H and N-H 3) Hydrogen bonds N-H and Cl-H

4) Ionic bonds only

28 Fill in the blanks in the following text with one of the words

gaseous, solid, oxides, produced.

Reaction of an element with oxygen leads to.

Metallicare, while non-metallic ones are often.

During combustion heat is.



Tipo domanda

Fill in Blanks

Argomento

Types of Chemical Reactions

DifficoltÃ

1/3

Punteggio

0.0

Punteggio massimo

1

Risposta scelta

not ok

Risposta

0) oxides

1) oxides

2) solid

3) gaseous

4) produced

29 Fill in the blank spaces in the following table:

Element

Atomic Number

Atomic Mass

Number of protons

Number of eletrons

Number of neutrons

Symbol

Metal / Nonmetal

Bromie

35

79



Tipo domanda

Fill in Blanks

Argomento

Atoms and Elements

DifficoltÃ

1/3

Punteggio

0.0

Punteggio massimo

1

Risposta scelta

not ok

Risposta

- 0) 35
- 1) 35
- 2) 44
- 3) Br
- 4) nonmetal

30 Fill in the blank spaces in the following table:

Element
Atomic Number
Atomic Mass
Number of protons
Number of eletrons
Number of neutrons
Symbol
Metal / Nonmetal

Neon
10
20



Tipo domanda	Fill in Blanks
Argomento	Atoms and Elements
Difficolt�	1/3
Punteggio	0.0
Punteggio massimo	1
Risposta scelta	not ok
Risposta	0) 10 1) 10 2) 10 3) Ne 4) Nonmetal