

Section B [Chemistry]

Question 1 Multiple choice questions [10 marks]

Circle the one that you consider as the correct answer.

1. Which of the following elements is a metal?

A.	B.	C.	D.
Sodium	Carbon	Oxygen	Nitrogen

2. An example of an element with valency 0 is

A.	B.	C.	D.
barium	sodium	calcium	argon

3. The symbol for is Ag.

A.	B.	C.	D.
aluminium	silver	oxygen	hydrogen

4. When too much fertilisers flow into rivers,occurs.



A.	B.	C.	D.
acid rain	eutrophication	global warming	flooding

5. Copper (II) carbonate does not dissolve in water. Which of the following methods can be used to separate a mixture of copper (II) carbonate and water?



A.	B.	C.	D.
Magnetic attraction	Filtration	Crystallization	Decantation

6. What is the name of the equipment shown below?



A.	B.	C.	D.
Funnel	Condenser	Beaker	Conical flask

7. A gas which is present in unpolluted air is

A.	B.	C.	D.
methane	sulfur dioxide	nitrogen	carbon monoxide

8. How many atoms of hydrogen are present in the formula NH_4OH ?

A.	B.	C.	D.
2	3	4	5

9. Which one of the following processes occurs only in plants?

A.	B.	C.	D.
Respiration	Combustion	Photosynthesis	Neutralisation

10. When copper (II) sulfate powder dissolves in water, a _____ solution is formed.

A.	B.	C.	D.
blue	white	creamy	colourless

Question 2**[9 marks]**

(a) Match the following terms to the appropriate descriptions.

[5]

Term	Description
Element	Shorthand way of representing an element
Compound	Combining power of an element
Valency	Made up of two or more elements chemically joined
Symbol	Represents a chemical reaction
Chemical equation	Substance that cannot be broken into simpler substances

(b) A list of chemical formulae is given below.

Circle the chemical formulae of all acids in the list.

[3]

NaOH	MgCl₂	HCl	
HNO₃	H₂SO₄	CaO	H₂O

(c) Identify from the above list, the chemical formula of water.

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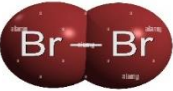


[1]

Question 3**[8 marks]**

(a) Table 1 shows the representation of some diatomic molecules. Complete the table by writing the correct formula of each molecule. [3]

One has been done for you.

Table 1

Element	Molecule	Formula of molecule
Oxygen		O ₂
Bromine		
Chlorine		
Hydrogen		

(b) Study the pictures showing the causes of water pollution. Identify the correct causes of water pollution illustrated using the words below.

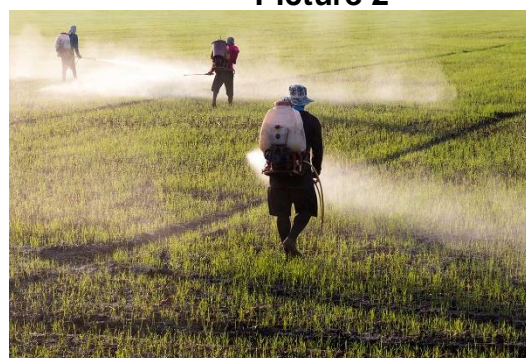
Marine/plastic dumping	Agricultural activities	Oil spillage in the sea
Washing clothes in the sea	Release of industrial waste in water bodies	

Picture 1



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Picture 2



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Picture 3



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Picture 4



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.....

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Picture 5



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Question 4**[10 marks]**

(a) Use the words below to identify the technique suitable in each of the situations given in the table below.

[4]

crystallization filtration distillation paper chromatography

	Situation	Separation technique
1	To obtain clean water from muddy water	
2	To remove leaves from a swimming pool	
3	To obtain pure water from copper (II) sulfate solution	
4	To separate the coloured dyes in black ink	

(b) Count the number of atoms of each element in the following formulae.

[6]

(i) **NaBr**

Number of Na atoms	
Number of Br atoms	

(ii) **Al₂O₃**

Number of Al atoms	
Number of O atoms	

(iii) **PCl₃**

Number of P atoms	
Number of Cl atoms	

Question 5

[13 marks]

Rohan adds some calcium granules to a beaker containing water. The setup of the experiment is shown below.

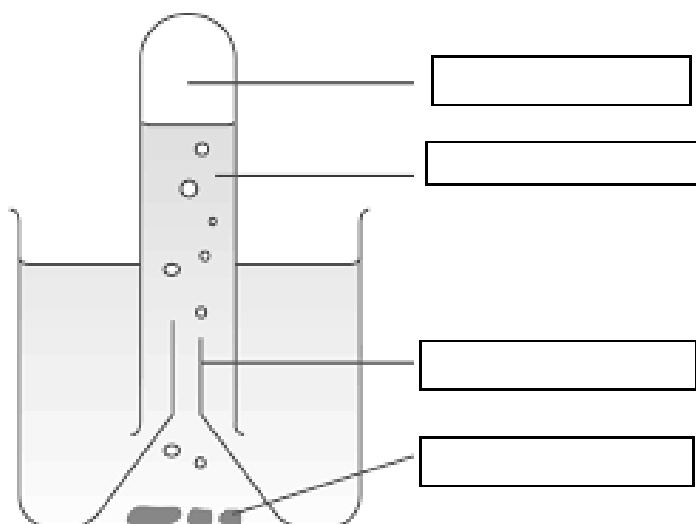
(a) Label the parts of the experiment using the words below. [4]

Calcium

inverted funnel

water

gas produced



(b) Give two observations that Rohan will make during the reaction. [2]

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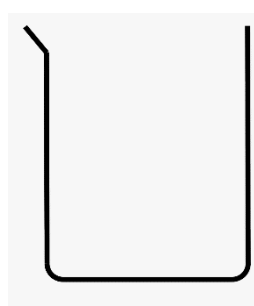
(c) Name the gas produced in the above experiment. [1]

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(d) Two different apparatus are given below. Name each apparatus. [2]



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(e) Draw a labelled diagram to show how ammonium chloride can be separated from a mixture of ammonium chloride and sodium chloride. [4]

