SUPERVISOR'S USE ONLY

90934



Level 1 Chemistry, 2016

90934 Demonstrate understanding of aspects of chemical reactions

2.00 p.m. Monday 21 November 2016 Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of chemical reactions.	Demonstrate in-depth understanding of aspects of chemical reactions.	Demonstrate comprehensive understanding of aspects of chemical reactions.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

A periodic table and other reference material are provided in the Resource Booklet L1–CHEMR.

If you need more room for any answer, use the extra space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL

QUESTION ONE

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(a)	Name the precipitate that is formed when the following solutions are mixed together.
	You may use the solubility rules provided in the resource booklet.

- (i) Zinc nitrate and sodium carbonate
- (ii) Barium chloride and sodium sulfate
- (b) (i) Copper sulfate solution and sodium hydroxide solution react to form a precipitate.

Complete the following equation showing the formation of the precipitate.

$$Cu^{2+} + OH^{-} \rightarrow$$

(ii)	Why is this	reaction	classified	as a	precipitation	reaction'
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(iii) Describe any observations that would be seen during this reaction, and link these to the reactants and products.

(c)

A s	olution is known to contain zinc ions OR lead ions.	ASSESSOR'S USE ONLY			
	w could a piece of iron metal, and a solution of sodium chloride, each be used to decide the ntity of the metal?				
In y	your answer, you should:				
•	• for each test, write a method that could be carried out in a school laboratory				
•	describe any observations and link them to the reactants and products involved				
•	write balanced ionic equations for any reactions that occur.				
Ва	alanced ionic equations:				

QUESTION TWO

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(i)	What type of reaction occurs?
(ii)	Describe any observations that would be seen during this reaction, and link these to the reactants and products.
(iii)	Write a balanced symbol equation for the reaction occurring.
form Whe	n magnesium is heated with oxygen, a bright light is produced and a white-grey solid is (Reaction 1). n magnesium metal is added to a solution of copper sulfate, the blue colour of the ion fades and a pinky-brown solid forms (Reaction 2).
form Whe solut	s (Reaction 1). n magnesium metal is added to a solution of copper sulfate, the blue colour of the
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Vord equation for Reaction 1 :	
Word equation for Reaction 2 :	
word equation for Reaction 2.	

QUESTION THREE

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(a)	A small amount of solid manganese dioxide is added to a test tube of freshly prepared hydrogen peroxide solution.						
	(i)	What observations would be made?					
		Explain your answer by linking any observations to the reactants and products involved.					
	(ii)	What type of reaction is occurring?					
	()	Explain your answer.					
(b)		ee white solids are known to be lead hydroxide, sodium hydrogen carbonate, and calcium onate.					
	How	could the three solids be identified using decomposition reactions?					
		port your answer with balanced symbol equations.					

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		Extra pape	er if required.	
QUESTION		Write the question n	umber(s) if applicable.	
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