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90932



Level 1 Chemistry, 2013

90932 Demonstrate understanding of aspects of carbon chemistry

9.30 am Thursday 21 November 2013 Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of carbon chemistry.	Demonstrate in-depth understanding of aspects of carbon chemistry.	Demonstrate comprehensive understanding of aspects of carbon chemistry.

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.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–10 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

You are advised to spend 60 minutes answering the questions in this booklet.

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ω		-	OIIL.			_

(i)	Identify the type of bonding within a molecule of methanol.
(ii)	Give a reason for your choice.
Com	pare and contrast the complete combustion of methanol to the incomplete combustione.
In yo	our answer:
•	compare and contrast the combustion reactions of both fuels
•	compare and contrast the impacts of the combustion products of both fuels on huma health or the environment
•	write a balanced symbol equation for the complete combustion of methanol.

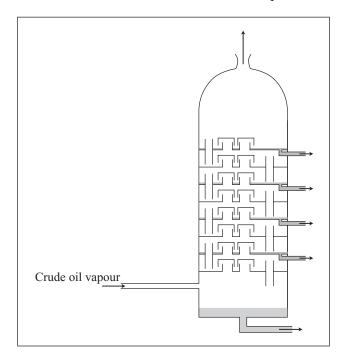
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Balanced symbol equation:	

QUESTION TWO: FRACTIONAL DISTILLATION

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Crude oil is fractionally distilled in tall towers, like the ones shown below, to obtain useful products.

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http://photoartforums.com/forums/uploads/1277616145/gallery_85_17_924301.jpg

(b) Name TWO of the fractions obtained from the fractional distillation tower, and describe ONE use for each.

Fraction	Name	Use
1		
2		

nat make up crude oil, and	ne chemical structure and physical produced the way the fractional distillation to	wer operates.

QUESTION THREE: POLYPROPENE

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The chemical structure of propene

Evnlain why all	kenes can be used	l to make noly	norg but allcan	og gannat	
Explain why an	xelles call be used	i to make poryi	iicis, vui aikain	es caimot.	

Name TWO uses of polypro	opene.	
	sical and/or chemical properties of polypropene.	
Ellik edeli üse to 1 wo pirys	sieur una / or enemieur properties or porypropene.	

QUESTION FOUR: ETHANE AND ETHANOL

	Ethane	Ethanol
	alyse the differences between ethane and etherences of their chemical structures and the	
In y	our answer include, for both ethane and eth	anol:
•	their state at room temperature	
•	their relative melting and boiling points	
•	their solubility in water.	

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eri	mentation is one method that can be used to produce ethanol.	
Elal	borate on how fermentation is used to produce ethanol.	
n y	your answer include:	
•	an explanation of the materials used and the products obtained	
•	the conditions required for fermentation to occur	
,	a balanced symbol equation.	
Ba	alanced symbol equation:	

Extra paper if required.						
QUESTION		Write the question number(s) if applicable.				
QUESTION NUMBER		. , ,				