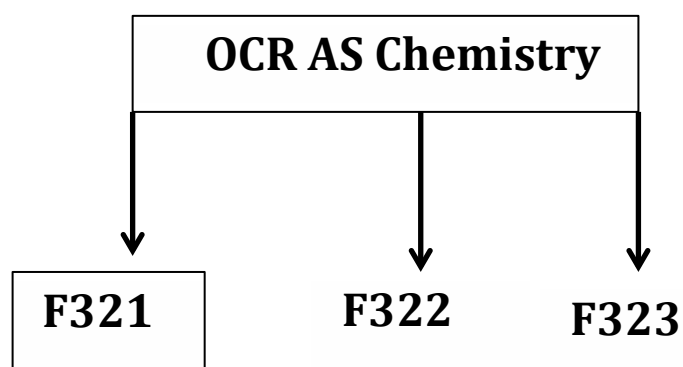


OCR Advanced GCE Chemistry A (H034)

F321: Atoms, Bonds and Groups



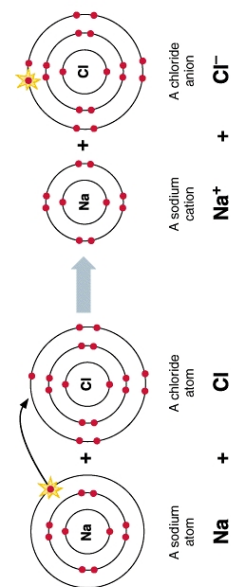
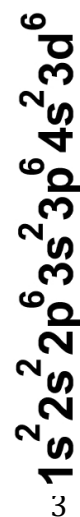
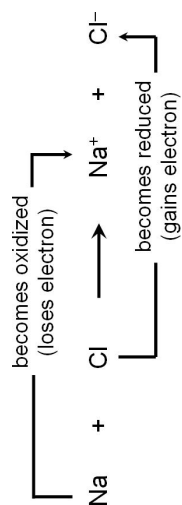
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Unit F321: Atoms, Bonds and Groups		Paper code: F321 QP																																	
1. Exam paper- Unit F321: <i>Atoms, Bonds and Groups</i> 22 nd May 2015 – 1 hour		15 % of Advanced GCE Chemistry																																	
<p style="text-align: center;">Overview of content</p> <ol style="list-style-type: none"> Module 1: Atoms and Reactions Module 2: Electrons, Bonding and Structure Module 3: Periodic Table 																																			
<p style="text-align: center;">Overview of assessment</p> <ol style="list-style-type: none"> The unit is assessed through a 1 hour examination paper set and marked by OCR. The total number of marks is 60. Grades A–E are available. Grades assessment by year: <table border="1"> <thead> <tr> <th>Year</th><th>Raw Marks to 90 % UMS - A*</th><th>Raw Marks to 80 % UMS grade 'A'</th></tr> </thead> <tbody> <tr><td>Jan 2010</td><td>-</td><td>46</td></tr> <tr><td>Jun 2010</td><td>-</td><td>52</td></tr> <tr><td>Jan 2011</td><td>-</td><td>44</td></tr> <tr><td>Jun 2011</td><td>-</td><td>49</td></tr> <tr><td>Jan 2012</td><td>-</td><td>45</td></tr> <tr><td>Jun 2012</td><td>-</td><td>50</td></tr> <tr><td>Jan 2013</td><td>-</td><td>49</td></tr> <tr><td>Jun 2013</td><td>-</td><td>51</td></tr> <tr><td>Jun 2014</td><td>-</td><td>46</td></tr> <tr><td>Jun 2015</td><td>?</td><td>?</td></tr> </tbody> </table>			Year	Raw Marks to 90 % UMS - A*	Raw Marks to 80 % UMS grade 'A'	Jan 2010	-	46	Jun 2010	-	52	Jan 2011	-	44	Jun 2011	-	49	Jan 2012	-	45	Jun 2012	-	50	Jan 2013	-	49	Jun 2013	-	51	Jun 2014	-	46	Jun 2015	?	?
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AS unit F321: *Atoms, Bonds and Groups*

Module 3: Periodic Table

Group 2 and group 7



Gas	F	↑	Volatility increases	↑	Solubility in water increases	↑	Melting & boiling point increases	↑	Increase in strength of oxidising agent
Gas	Cl								
Liquid	Br								
Solid	I								
	At								

How BioChem Tuition prepares their students for F321: *Atoms, Bonds and Groups*?

BioChem Tuition has a three-pronged strategy to attack F324 that helps students to attain A or A*.

1. **Detailed F321 knowledge:** The students will study the specification of OCR F321 alongside extensive practice of examination style questions to help them retain the content of the specification. The students will receive detailed F321 notes prepared by BioChem Tuition. This is supplemented by examination style questions to gauge the student's level of understanding of the topic.

Key features

- ✓ F321 specification notes.
 - ✓ F321 examination style past examination questions.
 - ✓ 1-2-1 help in understanding the key examiner points.
 - ✓ Revision notes and charts to aid revision.
2. **Practice OCR past examination papers (2001-2014):** All students will complete at least 14 years of OCR past exam papers. BioChem Tuition will provide all the past papers in printed form to the students. Candidates are required to complete past papers, which are checked and marked in light of the official examiner report and mark scheme in the presence of the student. Any mistakes will be followed up to ensure the mistakes are not repeated. The students will be shown how to maximise their marks by following our exam technique and also methods to improve comprehension for scientific questions.

Key features

- ✓ 14 years of past examination papers practice.
 - ✓ 1-2-1 help in understanding the exam technique.
 - ✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated.
 - ✓ Past paper practice can be extended by solving F321 style questions from AQA, CIE and Edexcel exam boards.
3. **Mock examination practice:** Mock F321 examination practice to give student feedback on the likely grade achievable in the exams.

Key features

- ✓ Mock examination practice to simulate exam experience, which will be marked, graded and feedback on mistakes provided.

How To Achieve Grade 'A' or 'A*'
F321: *Atoms, Bonds and Groups*

Intensive tutoring		Past papers practice (2001-2014)		Mock examination practice	
1. Cover F321 Specification 2. Practice examination style questions			1. Solve F321 past papers. 2. Revisit the mistakes/revise topics		1. Solve mock examination papers to prepare for the exam

F321 Tuition Plan

Tuition Plan for F321: Atoms, Bonds and Groups	
Stage 1: Specification Topics	Tuition time
Module 1: <i>Atoms and Reactions</i>	6 hours
1.1 Atoms, Moles and equations, Acids and Redox <ul style="list-style-type: none"> Atomic structure, Relative isotopic and atomic mass Mole, empirical and molecular formulae, chemical equations 	2 hour
1.2 Acids and bases <ul style="list-style-type: none"> Acids, bases and salts. Redox reactions. 	
<ul style="list-style-type: none"> Practice of past examination style questions on Atoms, Moles and Equations, Acids and Redox. 	4 hours
Module 2: <i>Electrons, Bonding and Structure</i>	6 hours
2.1 Electron structure <ul style="list-style-type: none"> Ionisation energies and electronic configuration. <ul style="list-style-type: none"> Ionic Bonding. Covalent and dative covalent (coordinate) bonding. <ul style="list-style-type: none"> Shapes of molecules and ions. Electronegativity and bond polarity. <ul style="list-style-type: none"> Intermolecular forces Metallic Bonding. 	3 hours

Practice of past examination style questions on Electrons, Bonding and structure	3 hours
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Module 3: <i>Periodic Table</i>		8 hours
3.1 Periodicity <ul style="list-style-type: none">• Periodic table in groups and periods.• Physical properties of the elements.• Variations across and down the groups.	4 hours	
3.2 Redox reactions of group 2 metals <ul style="list-style-type: none">• Reactions with oxygen and water.• Trends of reactivity down the group.• pH of the resulting solutions.• Predictions of thermal stability.		
3.3 Group 7 <ul style="list-style-type: none">• Physical properties of halogens.• Trends in the reactivity of halogens.• Ionic equations• Disproportionation reactions.• Precipitation reactions.		
<ul style="list-style-type: none">• Practice of past examination style questions on Periodic Table.	4 hours	
Stage 2: <i>Past paper practice</i>		10 hours
<ul style="list-style-type: none">• Practice of past examination papers from 2001 to 2014 relevant to F321: Atoms, Bonds and Groups.<ul style="list-style-type: none">✓ 14 years of past examination papers practice.✓ 1-2-1 help in understanding the exam technique.✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated.✓ Past paper practice can be extended by solving F321 style questions from other exam boards such as AQA, CIE and Edexcel.	10 hours	

Stage 3: <i>Mock examination practice</i>		4 hours
<ul style="list-style-type: none">• Mock examination practice to simulate exam experience, which will be marked, graded and feedback on mistakes provided by BioChem Tutors.		4 hours