Unit Code: H433/02
Qual Name: A level Chemistry B
Qual Title: Scientifc literacy in Chemistry

Question Set	Q. No	Total Marks	AO	Spec Ref.	Topic	Question Subject	Additional Notes/Comments
1	1a(i)	2	2	WMa/PLh	Salt preparation equation		
1	1a(ii)	2	2	ELc	Reacting volumes calculation		
1	1b	1	2	Oi	Acid-base ionic equation		
1	1c(i)	1	1	Ok	Acid dissociation equation		
1	1c(ii)	2	1	Ol	pH calculation		
1	1d	3	1	Om	Explanation of buffers		
1	1e(i)	1	2	Om	pH calculation of buffer solution		
1	1e(ii)	4	3	Om 1.1.1a	pH of buffer/ mass of salt required		
2	2a	2	1	CDf	Aromatic Organic functional groups		
2	2bi	2	3	ELb 1.1.3abc	Reacting mass calculation		
2	2bii	2	2	OZc,d	Hydrogen bonding		
2	2biii	1	1	CDf/l	identification of reaction type(s)		
2	2biv	2	2	DFr/PLj	Use of skeletal formulae		
2	2bv	4	1 & 3	WMe 1.1.2a	Practical procedure	based on Required practical technique - prep of an organic solid and test its purity	2 marks for AO1 and 2 marks for AO3
2	2ci	3	3	PLe/g	Enzymes		
2	2cii	1	1	DFt	Stereochemistry		
2	2ciii	1	1	DFt	Bonding and Structure		
3	3ai	1	2	PLq	chiral centres		
3	3aii	1	1	Cdj	naming functional groups		
3	3aiii	2	3	PLq	identification test for aldehydes		
3	3aiv	2	1 & 2	WMb	alcohols		
3	3av	1	3	PLo	reaction types		
3	3avi	1	3	ELd/CLa	molecular structures		
3	3b	2	2	PLc	DNA		
3	3ci	2	1	PLc	DNA		
3	3cii	1	1	PLd	DNA		

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3	3ciii	1	2	PLd	DNA		
3	3civ	2	2	PLd	DNA		
3	3d	6	3	PLs/t	LOR extended writing		
4	4ai	4	2	ESe/DMg,h	Redox		
4	4aii	2	2	ELb	reacting mass calculation		
4	4bi	1	2	DMh	electron configurations		
4	4bii	3	3	ESc 1.1.1a	electroplating practical set up		
4	4biii	1	2	ESc	electrochemical half cell equation		
4	4biv	3	2	ELb/ESc 1.1.3a	molar calculation		
4	4ci	1	2	DMi	transition metal complexes		
4	4cii	2	3	ESq?DMj 1.1.1a	transition metal complexes		
4	4di	6	2	ELc/ESf/DMa 2b, 3ab	Volumetric analysis calculation		
4	4dii	1	3	1.1.4c	Volumetric practical evaluation		
5	5a	3	2	WMdii	Identification of functional groups		
5	5bi	6	1,2,3	CDm	LOR extended writing		
5	5bii	3	2	ELw/OZu	Light and energy calculation		Table of General Information from p1 of Data Sheet
5	5ci	1	2	Oi	Acidic properties of complex ions		
5	5cii	2	1	DMb	Shapes of complex ions		
5	5d	2	3	OZh/DMl	Transition metals as catalysts		
5	5e	3	3	CLb	Neutralising acidity		
6	6ai	1	2	Obii	Enthalpy cycles		
6	6aii	2	2	ELl M4.2	Ionic structures		
6	6b	2	2	ELbi 1.1.3a	Reacting Mass Calculation		
6	6c	3	3	DFa	Reacting Mass Calculation		
6	6di	1	1	ELq	Ionisation Enthalpy		
6	6dii	2	1	ELq	Ionisation Enthalpy		
6	6ei	1	1	ELs, ESk	Analytical Chemistry		
6	6eii	1	1	ELw,(v)	Analytical Chemistry		
7	7ai	2	1	PLr(ii) WM i (ii),(iii)	Mass spectroscopy		
7	7aii	2	1	PLr(i) DFm	Mass spectroscopy		
7	7aiii	4	3	PLs,t	Spectroscopy		
7	7bi	1	1	DFb	Bonding and Structure		
7	7bii	1	1	DFc	Bonding and Structure		

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7	7ci	1	2	DFj ELd	Catalytic Cracking		
7	7cii	2	2	ELbi	Reacting Masses Calculation		
7	7d	1	1	DFp	Polymers		
7	7ei	3	1	CDe(ii)	Enthalpy Changes		
7	7eii	6	2 & 3	CDg(i) DFq	LOR extended writing		
8	8a	3	1	PLe,g	Enzymes		
8	8b	1	2	CDl(i)	Reaction Types		
8	8c	6	3	CIc 1.1.1a,2a,3a	LOR extended writing		
8	8di	2	2	CIc 1.1.2c	Data Analysis		
8	8dii	4	2	OZf CIc 1.1.3di	Data Analysis		
8	8ei	2	2	CIa	Rate Equations		
8	8ii	3	3	PLf	Rate Equations		
8	8f	3	2 & 3	ELc(i) DFa	Gas Volume Calculation		
8	8g	2	2	ELc(i)	Volumetric Calculation		
9	9ai	1	1	ELo	Acids, Bases & Buffers		
9	9aii	1	2	Oi(iii)	Acids, Bases & Buffers		
9	9bi	2	2	ELi,k	Shapes of Molecules		
9	9bii	2	3	OZa	Shapes of Molecules		
9	9c	2	3	OZb,c	Intermolecular Forces		
9	9di	2	2	Ol(iii) Ok	pH Calculations		
9	9dii	1	2	Ol(i)	pH Calculations		
9	9ei	2	2	Om(iii)	pH Calculations		
9	9eii	2	3	ESq Ol	pH Calculations		
9	9f	3	2	Ol(ii)	pH Calculations		
10	10a	1	2	PLb	Amino Acids		
10	10b	2	1	PLc(i)	Enzymes		
10	10c	2	2	EL(d)	Data Interpretation		
10	10di	3	3	CLb/c 1.1.1a	Data Interpretation		
10	10dii	2	2	ELd	Data Interpretation		
10	10ei	2	2	DFr	Transition metal ions		
10	10eii	1	1	DMm(i)	Colour Chemistry		
10	10f	4	1 & 2	ELk	Bond Angles / Shapes of molecules		
10	10g	3	3	CLb/c	Evaluation of information		

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11	11a	2	1	PLk Ozjii	Functional Groups		
11	11b	3	1 & 2	ELk	Shapes of Molecules		
11	11c	2	2	ELbi P1.1.3a,b	Reacting Masses Calculation		
11	11d	2	2	Ozkii CDj	Organic Synthesis		
11	11ei	1	1	OZc	Intermolecular Bonds		
11	11eii	1	1	OZc	Intermolecular Bonds		
11	11fi	1	1	PLm P1.1.3a	Hydrolysis Reaction		
11	11fii	2	1	PLm P1.1.3a	Hydrolysis Reaction		
12	12a	3	1	ELw(i)	Atomic Emission Spectroscopy		
12	12bi	4	2	DFa Elbi P1.1.3b,c	Gas Volume Calculation		
12	12bii	4	3	ELr	Periodicity		
12	12ci	1	1	ELg	Atomic Structure		
12	12cii	2	2	ELx	Isotopic Abundance		
12	12d	6	3	ELci,Elcii Dma P1.1.2a	LOR extended writing		
12	12ei	2	1 & 2	ELu, Oh	Solubility Product		
12	12eii	3	2	Oh	Solubility Product		
12	12eiii	2	3	Oh ESq	Solubility Product		
12	12fi	1	1	Elm	Periodicity		
12	12fii	2	1	ELn	Periodicity		
13	13a	2	2	DMc, EL d, Esf	Redox		
13	13bi	2	2	Dmfii P 1.1.4c	Electrochemistry		
13	13bii	2	3	Dmfii P 1.1.4e	Electrochemistry		
13	13ci	4	3	DMd(i)(ii)(iii) P 1.1.2a	Electrochemistry		
13	13cii	1	2	DMe DMf(i) P 1.1.2b	Electrochemistry		
13	13ciii	1	2	DMe DMf(i) P 1.1.2b	Electrochemistry		
13	13civ	1	1	DMf	Electrochemistry		
13	13cv	2	2	DMf	Electrochemistry		
13	13di	1	1	ESj	Redox		
13	13dii	1	1	ESd(iii)	Redox		
13	13diii	1	1	ESj P 1.1.3a	Redox		
13	13div	1	2	ESi	Redox		
13	13e	2	3	Esl P 1.1.2a	Practical Procedure		
14	14a	2	3	OZq	Ozone depletion		

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14	14bi	4	2	Cib P1.1.3d	Data Interpretation		
14	14bii	1	2	CIc	Rates of Reaction		
14	14c	2	2	CIa	Rates of Reaction		
14	14d	3	2	Cid P1.1.2b, 1.1.3d	Arrhenius Calculation		
14	14e	3	3	CIe	Rates of Reaction		
15	15a	3	2	DFd,DFg	Hess's Cycle		
15	15b	4	2	Dfa	Gas Volume Calculation		
15	15ci	2	2	ELe	Structure and Bonding		
15	15cii	2	1	DFb CD d	Structure and Bonding		
15	15d	1	2	CLa	Free Radicals & Polymerisation		
15	15ei	1	2	OZpi	Free Radical reactions		
15	15eii	1	3	OZf	Free Radical reactions		
15	15f	6	3	Dfa, Od, CLc	LOR Extended writing		