0 1	Fertilisers contain element	s that plants need.	
	Fertilisers can be made fro	m ammonia.	
0 1 . 1	Which diagram, A, B, or C, r molecule?	epresents the electronic struc	
	A	В	[1 mark] C
	H N H	H N H	H N H
	The electronic structure of	an ammonia molecule is sho	wn in diagram
0 1 . 2	What is the correct formula  Draw a ring around the cor		[1 mark]
	N₃H	NH₃	NH³
0 2 . 1	A student made ammonium	n nitrate by reacting ammonia ke ammonium nitrate.	a solution with an acid. [1 mark]
0 2 . 2	Complete the sentence.		[1 mark]
		rops ofsolution had neutralised the a	
0 2 . 3	The student added charcoa	al and filtered the mixture.	
	This produced a colourless	solution of ammonium nitrat	e.
	How is solid ammonium ni	trate obtained from the soluti	on? [1 mark]
0 2 . 4	A farmer put ammonium n	trate fertiliser onto a field of o	
			[

0	3			Ammonia is used to make ammonium nitrate.	
0	3	. [	1	Calculate the relative formula mass (Mr) of ammonium nitrate, NH $_4$ NO $_3$	[O morks]
	Į.			Relative atomic masses (Ar): H = 1; N = 14; O = 16	[2 marks]
				Relative formula mass =	
				(Tota	l 8 marks)

End of Question See next page for Data Sheet

							_			_			l	
0	He helium	20 <b>Ne</b>	₽ ₽	argon 18	84	krypton	36	ة چ	xenon 54	[222]	문	radon 86		
7		19 <b>F</b> fluorine 9	35.5 Cl	chlorine 17	08	<b>L</b> bromine	32	127	iodine 53	[210]	Αŧ	astatine 85		
9		16 <b>O</b> oxygen 8	32 <b>S</b>	sulfur 16	62	Se selenium	34	128 <b>Te</b>	tellurium 52	[209]	Ъо	polonium 84		
5		14 N nitrogen 7	31 <b>D</b>	phosphorous 15	75	AS arsenic	33	222 <b>Sb</b>	antimony 51	209	<b></b>	bismuth 83		
4		12 C carbon 6	Si Si	silicon 14	73	<b>Ge</b> germanium	32	Sn	tin 50	207	Pp	lead 82		
3		11 <b>B</b> boron 5	27 <b>A</b> l	aluminium 13	0.0	gallium m	31	٦ <b>ت</b>	indium 49	204	F	thallium 81		
	·				9	zipc	30	<u>ප</u> දූ	cadmium 48	201	Εğ	mercury 80		
					63.5	3 obber	29	Ag Ag	silver 47	197	٦ ع	gold 79	[272] <b>Rg</b>	roentgenium 111
					59	nickel	28	<sup>26</sup> <b>P</b>	palladium 46	195	ጟ :	platinum 78	[271] <b>DS</b>	darmstadtium 110
					29	copalt Copalt	27	<u>ੂ</u> ਵ	rhodium 45	192	<b>-</b> :	iridium 77	[268] <b>Mt</b>	meitnerium 109
	1 <b>H</b> hydrogen 1				26	<b>a</b> 'ē	26	<b>.</b> 2	ruthenium 44	190	s O	osmium 76	[277] <b>HS</b>	hassium 108
		sse	$\neg$		55	Mn manganese	25	<u>ම</u> ද	technetium 43	186	Be	rhenium 75	[264] <b>Bh</b>	bohrium 107
		relative atomic mass atomic symbol	atomic number		25	5	24	<sup>%</sup> <b>№</b>	molybdenum 42	184		tungsten 74	[266] <b>Sq</b>	seaborgium 106
	KEY	<ul> <li>relative atomic</li> <li>atomic symbol</li> </ul>	→ atomic		51	Vanadium	23	ន្ត		181	<u>e</u>	tantalum 73	(262)	dubium 105
		<b> </b>	nydrogen 1		84 <b>!</b>	titanium	22	۲.	zirconium 40	178	Ξ	natnium 72	[261] <b>Rf</b>	ruthfordium 104
					45	Scandium	21	8 <b>&gt;</b>	yttrium 39	139	E .	lanthanum 57	[227] <b>Ac</b>	actinium 89
2		9 <b>Be</b> beryllium	Mg	magnesium 12	40	calcium calcium	70	సజ	strontium 38	137	Ba	barium 56	[226] <b>Ra</b>	radium 88
1		7 Li lithium	Na Na	_	33	<b>K</b> potassium	19	88 <b>25</b>	rubidium 37	133	္ပ	caesium 55	[223] <b>Fr</b>	francium 87
							_							