DEPARTURE/ABFLUG

C2 BONDING

DRILL HEADS CON

TAIN DIAMOND.

DESCRIBE THE

STRUCTURE AND

BONDING IN

DIAMOND. [4]

DESCRIBE: RECALL FACTS, EVENTS OR PROCESSES. GIVE AN ORDERED ACCOUNT.

CONNECTIVES: FIRSTLY, NEXT, FINALLY,...

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	DIAMOND HAS A GIANT STRUCTURE	EXPECTED
1	WHERE EACH CARBON ATOM FORMS 4	EXPECTED
1	STRONG	EXPECTED
1	COVALENT BONDS	EXPECTED
	ALLOW CARBON ATOMS IF NO OTHER MARKS HAVE BEEN AWARDED	DELAYED

DEPARTURE/ABFLUG

C2 POLYMERS

DESCRIBE THE

STUCTURE & BOND

ING IN A THERMO

SOFTENING POLY-

MER & EXPLAIN

WHY IT MELTS [4]

DESCRIBE: RECALL FACTS, EVENTS OR PROCESSES. GIVE AN ORDERED ACCOUNT.

CONNECTIVES: FIRSTLY, NEXT, FINALLY,…

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,….

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	THE LONG CHAINS OF THE POLYMER	EXPECTED
1	ARE HELD TOGETHER BY IMF	EXPECTED
1	WHICH ARE WEAK	EXPECTED
1	THEREFORE EASILY OVERCOME BY HEAT	EXPECTED
	REFERENCE TO WEAK COVALENT BOND	CANCELLED
	= 2 MARKS MAX	

DEPARTURE/ABFLUG

C2 BONDING

EXPLAIN WHY SI-

LICON DIOXIDE

IS USED AS A

FURNACE LINING-

IT IS SIMILAR 2

DIAMOND. [4]

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,....

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	IT HAS A GIANT STRUCTURE	EXPECTED
1	WITH MANY STRONG COVALENT BONDS	EXPECTED
1	WHICH REQUIRE A LOT OF HEAT TO BREAK	EXPECTED
1	SO THE MELTING POINT IS HIGH	EXPECTED
	INCORRECT BOND DESCRIBED = 3 MARKS MAX	CANCELLED

DEPARTURE/ABFLUG

C2 ACIDS&BASES

DESCRIBE HOW TO

MAKE KCl CRYS-

TALS FROM HCl &

KOH. EQUIPMENT?

MEASUREMENTS?

METHOD? [6]

DESCRIBE: RECALL FACTS, EVENTS OR PROCESSES. GIVE AN ORDERED ACCOUNT.

CONNECTIVES: FIRSTLY, NEXT, FINALLY,...

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
5-6	THERE IS A DETAILED DESCRIPTION OF A LAB PROCEDURE FOR OBTAINING KCl. AN INDICATOR HAS BEEN USED AND A METHOD OF OBTAINING CRYSTALS. ALMOST FAULTLESS SPAG.	LANDED
3-4	THERE IS A CLEAR DESCRIPTION OF A LAB PROCEDURE FOR OBTAINING KCl. AN INDICATOR HAS BEEN USED OR A METHOD OF OBTAINING CRYSTALS. SOME SPAG ERRORS.	EXPECTED
1-2	THERE IS A SIMPLE DESCRIPTION OF A LAB PROCEDURE FOR OBTAINING KCl. POOR SPAG.	DELAYED
0	NO RELEVANT COMMENTS MADE	CANCELLED

CH2P2012

ADD HCl TO FLASK, ADD INDICATOR, ADD KOH, SWIRL, ADD DROPWISE NEAR ENDPOINT, STOP WHEN INDICATOR CHANGES COLOUR. NOTE VOLUME OF KOH USED. REPEATE WITHOUT INDICATOR, POUR SOLUTION INTO EVAPORATING BASIN, HEAT, LEAVE TO CRYSTALLISE.

LAST UPDATDED 20:48 PM

DEPARTURE/ABFLUG

C2 ELECTROLYSIS

DESCRIBE HOW A]

& CO_2 ARE PRO-

DUCED DURING

ELECTROLYSIS OF

ALUMINIUM OXIDE

. [6]

DESCRIBE: RECALL FACTS, EVENTS OR PROCESSES. GIVE AN ORDERED ACCOUNT.

CONNECTIVES: FIRSTLY, NEXT, FINALLY,...

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
5-6	THERE IS A CLEAR AND DETAILED DESCRIPTION OF THE ELECTROLYSIS OF MOLTEN ALUMINIUM OXIDE. SPAG IS ALMOST FAULTLESS.	LANDED
3-4	THERE IS SOME DESCRIPTION OF THE ELECTROLYSIS OF MOLTEN ALUMINIUM OXIDE. SOME SPAG ERRORS.	EXPECTED
1-2	THERE IS A BRIEF DESCRIPTION OF THE ELECTROLYSIS OF MOLTEN ALUMINIUM OXIDE. POOR SPAG.	DELAYED
0	NO RELEVANT COMMENTS MADE	CANCELLED

CH2PSMS

MELT ALUMINIUM OXIDE, POSITIVE ALUMINIUM IONS ATTRACTED TO CATHODE, ALUMINIUM IONS GAIN 3 ELECTRONS EACH, NEGATIVE OXIDE IONS ATTRACTED TO ANODE, OXIDE IONS LOSE 2 ELECTRONS EACH, OXYGEN ATOMS PAIR UP, OXYGEN GAS FORMED, OXYGEN REACTS WITH CARBON ANODES TO MAKE CARBON DIOXIDE.

LAST UPDATDED
21:05 PM

DEPARTURE/ABFLUG

C2 BONDING

EXPLAIN WHY

BRONZE IS HAR-

DER THAN PURE

COPPER. REFER TO

ARRANGEMENT OF

ATOMS. [6]

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,....

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	ATOMS IN PURE COPPER ARRANGED IN LAYERS	EXPECTED
1	THEREFOR LAYERS CAN SLIDE SO COPPER IS SOFT	EXPECTED
1	IN BRONZE, TIN ATOMS DISTORT LAYERS	EXPECTED
1	CONSEQUENTLY, ATOMS CANNOT SLIDE SO BRONZE IS HARDER	EXPECTED
	A CORRECTLY LABELLED DIAGRAM FOR COPPER AND BRONZE CAN SCORE 4 MARKS	LANDED

DEPARTURE/ABFLUG

C2 BONDING

EXPLAIN WHY

COPPER AND

OTHER METALS

HAVE A HIGH

MELTING POINT.

[4]

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,....

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	METALS HAVE A GIANT STRUCTURE	EXPECTED
1	MADE UP OF POSITIVE IONS SURROUNDED BY DELOCALISED ELECTRONS	EXPECTED
1	WITH STRONG ELECTROSTATIC ATTRACTION FORCES BETWEEN THEM	EXPECTED
1	WHICH REQUIRE A LOT OF ENERGY TO BREAK	EXPECTED
	REFERENCE TO INCORRECT BONDING = 3 MARKS MAX	CANCELLED

DEPARTURE/ABFLUG

C2 BONDING

DESCRIBE IN

TERMS OF ELEC-

TRONS WHAT HAP-

PENS WHEN IO-

DINE REATS WITH

MAGNESIUM. [4]

DESCRIBE: RECALL FACTS, EVENTS OR PROCESSES. GIVE AN ORDERED ACCOUNT.

CONNECTIVES: FIRSTLY, NEXT, FINALLY,...

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
1	MAGNESIUM ATOMS LOSE	EXPECTED
1	2 ELECTRONS EACH	EXPECTED
1	IODINE ATOMS GAIN	EXPECTED
1	1 ELECTRON EACH	EXPECTED
	METALLIC, SHARING, COVALENT OR MOLECULE MENTIONED = 3 MARKS MAX	CANCELLED

DEPARTURE/ABFLUG

C2 ELECTROLYSIS

EXPLAIN WHY

NaOH IS MADE BY

ELECTROLYSIS OF

BRINE RATHER

THAN MOLTEN

NaCl. [6]

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,….

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
5-6	THERE IS A CLEAR AND DETAILED DESCRIPTION OF THE POSITIVE AND NEGATIVE REASONS FOR USING BRINE. ALMOST FAULTLESS SPAG.	LANDED
3-4	THERE IS SOME DESCRIPTION OF THE POSITIVE AND NEGATIVE REASONS FOR USING BRINE. SOME SPAG ERRORS.	EXPECTED
1-2	THERE IS A BRIEF DESCRIPTION OF REASONS FOR USING BRINE. SPAG IS WEAK.	DELAYED
0	NO RELEVANT COMMENTS MADE	CANCELLED

COLLREVC2

POSITIVES: CAN BE CARRIED OUR AT ROOM TEMPERATURE, NaOH PRODUCED DIRECTLY.
NEGATIVES: ELECTROLYSIS REQUIES ELECTRICITY, ELECTRICITY IS EXPENSIVE.

LAST UPDATDED
22:32 PM

DEPARTURE/ABFLUG

C2 BONDING

EXPLAIN WHY

Cl_2 IS A GAS AT

ROOM TEMPERA-

TURE WHEREAS

NaCl IS A SOLID

. [6]

EXPLAIN: ALL POINTS ARE LINKED LOGICALLY WITH CONNECTIVES SUCH AS THEREFORE, CONSEQUENTLY,....

ARRIVALS/ANKUNFT

MARKS	MARKING POINTS	
5-6	DETAILED DESCRIPTION OF STRUCTURE AND BONDING IN Cl_2 AND NaCl LINKED TO MPs. ALMOST FAULTLESS SPAG.	LANDED
3-4	CLEAR DESCRIPTION OF STRUCTURE OR BONDING IN Cl_2 AND NaCl LINKED TO MPs. SOME SPAG ERRORS.	EXPECTED
1-2	SOME DESCRIPTION OF STRUCTURE OR BONDING IN Cl_2 OR NaCl. SPAG IS WEAK.	DELAYED
0	NO RELEVANT COMMENTS MADE	CANCELLED
CH2H2014	Cl_2 IS SIMPLE MOLECULAR, WEAK IMF BETWEEN MOLECULES REQUIRE LITTLE ENERGY TO BE OVERCOME, LITTLE HEAT REQUIRED SO MP IS LOW. NaCl GIANT IONIC LATTICE. STRONG ELECTROSTATIC ATTRACTION BETWEEN POSITIVE SODIUM IONS AND NEGATIVE CHLORIDE IONS REQUIRES LARGE AMOUNTS OF ENERGY TO BE OVERCOME, HIGH MP.	LAST UPDATDED 00:17 AM

FLIGHT C2

TOPIC

STRUCTURE AND BONDING

A/A* GRADE

ADDITIONAL SCIENCE

ELECTRON PAIRS, SHARED, COVALENT, BOND, STRONG, SIMPLE, MOLECULAR, WEAK IMF, LOW, BP. GIANT, LATTICE, HEXAGONS, LAYERS, SLIPPERY, DELOCALISED, GIANT, LATTICE, TETRAHEDRONS, HIGH, MP, POSITIVE, NEGATIVE, ION, ELECTROSTATIC, ATTRACTION, CHARGE.

CHEMISTRY AIRLINES **BOARDING PASS**

FLIGHT C2

STRUCTURE

GIANT COVALNET
SIMPLE COVALENT
GIANT IONIC
GIANT METALLIC

BONDING

COVALENT
IONIC
METALLIC

CHEMISTRY AIRLINES

FLIGHT C2

TOPIC

NEW MATERIALS

A/A* GRADE

ADDITIONAL SCIENCE

MONOMER, POLYMER, THERMOSETTING, THERMOSOFTENING, LAYERS, INTERMOLECULAR FORCES, CROSS-LINK, COVALENT, BOND. NANO, SURFACE AREA, CATALYST, TINY, ANTIBACTERIAL.

CHEMISTRY AIRLINES **BOARDING PASS**

FLIGHT C2

POLYMERS

DIFFERENT MONOMERS AND DIFFERENT CONDITIONS MAKE DIFFERENT POLYMERS

POLYMERS

1 NANOMETER = $1X10^{-9}m$
NANO PARTILES DIFFER IN PROPERTIES TO LARGE SCALE MATERIALS

CHEMISTRY AIRLINES

FLIGHT C2

ADDITIONAL SCIENCE

TOPIC

ELECTROLYSIS

OXIDATION, REDUCTION, ELECTRONS, ANODE, CATHODE, CATION, ANION, GAIN, LOSE, ELECTROLYTE, IONS, ELECTRODE, EXTERNAL CIRCUIT.

A/A*
GRADE

CHEMISTRY AIRLINES **BOARDING PASS**

FLIGHT C2

OIL RIG

OXIDATION IS LOSS
REDUCTION IS GAIN OF ELECTRONS

CATION = POSITIVE
CATHODE = NEGATIVE
ANION = NEGATIVE
ANODE = POSITIVE

CHEMISTRY AIRLINES

FLIGHT C2

ADDITIONAL SCIENCE

TOPIC

ACIDS AND BASES

PROTON DONOR, PROTON ACCEPTOR, CRYSTALS, SALT, EVAPORATE, MENISCUS, BURETTE, PIPETTE, INDICATOR, DROPWISE, ENDPOINT, SOLUBLE, INSOLUBLE, ALKALI, CORROSIVE, HYDROXIDE ION, NEUTRALISATION, PRECIPITATE.

A/A*
GRADE

CHEMISTRY AIRLINES **BOARDING PASS**

FLIGHT C2

ACID = PROTON (H^+) DONOR
BASE = PROTON ACCEPTOR

ALKALI = SOLUBLE BASE
ALKALIS RELEASE HYDROXIDE (OH^-) IONS IN SOLUTION

CHEMISTRY AIRLINES