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Uimhir Lárionaid

Uimhir Iarrthóra

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2019

Ceimic

Aonad Measúnaithe AS 3
ag measúnú
Modúl 3: Buncheimic Phraiticiúil

Leabhrán Praiticiúil A

[SCH31]

SCH31

DÉ CÉADAOIN 1 BEALTAINE, MAIDIN

AM

1 uair 15 nóiméad.

TREOIR D'IARRTHÓIRÍ

Scríobh d'Uimhir Lárionaid agus d'Uimhir Iarrthóra sna spásanna chuige sin ag barr an leathanaigh seo.
Ní mór duit na ceisteanna a fhreagairt sna spásanna chuige sin.
Ná scríobh taobh amuigh den achar bhoscáilte ar gach leathanach nó ar leathanaigh bhána.
Comhlánaigh le dúch dubh amháin. **Ná scríobh le peann glóthaí.**
Freagair **an dá** cheist.

EOLAS D'IARRTHÓIRÍ

Is é 25 an marc iomlán don pháipéar seo.
Léiríonn figiúirí idir lúibíní atá priontáilte ar thaobh na láimhe deise de leathanaigh na marcanna atá ag dul do gach ceist nó do gach cuid de cheist.
Tá Tábla Peiriadach na nDúl (lena n-áirítear roinnt sonraí) curtha ar fáil.
Níl cead agat rochtain a bheith agat ar nótaí, ar théacsleabhair nó ar ábhar eile le cuidiú leat.
Ba chóir duit spéaclaí sábháilteachta a chaitheamh i gcónaí agus a bheith cúramach le linn an scrúdaithe phraiticiúil seo.

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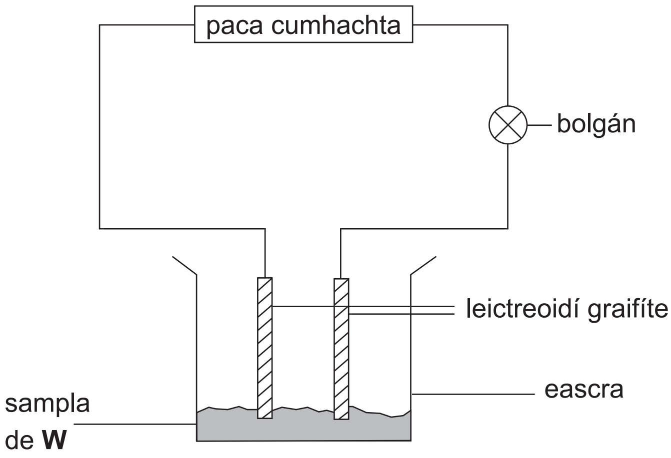
1 Cuirtear solad bán lipéadaithe **W** ar fáil duit.

(a) Cuir 4 thomhas spadail de sholad **W** in eascra 50 cm^3. Déan na céimeanna seo a leanas.

- Cuir ciorcad i dtreoir mar atá taispeánta thíos
- Bain úsáid as paca cumhachta 6 V
- Tum na leictreoidí isteach i solad **W**, agus cinntigh nach bhfuil na leictreoidí i dteagmháil lena chéile
- Lasc ann an paca cumhachta



(i) Taifead aon bhreathnuithe.

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____ [1]

(ii) Lasc as an paca cumhachta agus bain na leictreoidí amach as an eascra. Cuir 40 cm^3 d'uisce dí-ianaithe isteach san eascra a bhfuil **W** ann. Suaith leis an tsolad a thuaslagadh. Tum na leictreoidí isteach sa tuaslagán uiscí de **W** ag cinntiú nach bhfuil na leictreoidí i dteagmháil lena chéile agus ansin lasc ann an paca cumhachta. Taifead aon bhreathnuithe.

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____ [3]

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(iii) Mínigh cad chuige a dtaispeánann na breathnuithe atá déanta in **(a)(i)** agus **(a)(ii)** gur salann ianach é **W**.

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____ [1]

(b) Dianscaoilfidh solad **W** nuair a dhéantar é a théamh. Cuir dhá thomhas spadail de sholad **W** i bpromhadán fiuchta. Cuir dallán rubair a bhfuil seolfheadán ann i mbarr an phromhadáin fiuchta. Déan é a théamh go réidh, ag boilgearnú aon gháis a tháirgtear trí aoluisce, atá sa dara promhadán fiuchta. Bain an seolfheadán ar shiúl ón aoluisce nuair a stopann tú de bheith ag téamh an phromhadáin fiuchta.

(i) Cuir síos ar an méid a bhreathnaíonn tú sa phromhadán fiuchta téite.

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____ [1]

(ii) Cuir síos ar an méid a bhreathnaíonn tú san aoluisce.

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____ [1]

[Tiontaigh an leathanach

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(c) Déan 5 thomhas spadail de sholad **W** a thuaslagadh in 20 cm^3 d'uisce te dí-ianaithe (ó chiteal) in eascra 100 cm^3. Tomhais 20 cm^3 de thuaslagán sulfáit chopar(**II**) agus cuir isteach *go mall* é sa tuaslagán de **W**.

(i) Cuir síos ar an méid a bhreathnaíonn tú ag tarlú san eascra.

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______________________________ [2]

(ii) Ísligh birín lasta isteach san eascra agus taifead aon bhreathnú.

______________________________ [1]

(d) **(i)** Bain úsáid as scagachán leis an mheascán, a fuarthas in **(c)**, a dheighilt. Coinnigh an t-iarmhar agus an scagáit. Aistrigh leath-thomhas spadail den iarmhar fhliuch go dtí clog-ghloine. Cuir 2 cm^3 d'aigéad hidreaclórach caol leis an iarmhar ar an chlog-ghloine le braonphípéad. Suaith an chlog-ghloine go réidh. Cuir síos ar an méid a bhreathnaítear ar an chlog-ghloine.

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______________________________ [2]

(ii) Cuir líon beag braonta de thuaslagán níotráit airgid leis an inneachar ar an chlog-ghloine. Cuir síos ar an méid a bhreathnaítear ar an chlog-ghloine.

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______________________________ [1]

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(iii) Aistrigh 2 cm^3 den scagáit go dtí promhadán fiuchta le braonphípéad. Cuir 1 cm^3 de thuaslagán clóiríd bhairiam isteach le braonphípéad. Cuir síos ar an méid a bhreathnaítear sa phromhadán fiuchta.

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____ [1]

(iv) Déan tástáil lasrach ar an scagáit le píosa glan de shreang niocróim. Cad é an dath atá táirgthe sa lasair Bunsen?

____ [1]

[Tiontaigh an leathanach

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2 Cuirtear trí shreabhán **X**, **Y** agus **Z**, i dtrí choimeádán ar leith, ar fáil duit.

(a) Tomhais 10 cm^3 de na sreabháin **X** agus **Y** agus aistrigh iad isteach i bpromhadáin fiuchta ar leith. Cuir leath-thomhas spadail de sholad **W** le gach promhadán fiuchta agus suaith iad. Taifead na breathnuithe atá déanta i ngach promhadán fiuchta.

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____ [2]

(b) Tomhais 10 cm^3 de na sreabháin **X** agus **Y** agus aistrigh iad isteach i bpromhadáin fiuchta ar leith. Bain úsáid as spadal nó pionsúirín le gráinnín cailciam a chur le gach promhadán fiuchta.

(i) Taifead **dhá** bhreathnú atá *mar an gcéanna* i ngach promhadán fiuchta nuair a chuirtear an miotal cailciam le **X** agus **Y**.

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____ [2]

(ii) Taifead breathnú **amháin** atá *difriúil* i ngach promhadán fiuchta nuair a chuirtear an miotal cailciam le **X** agus **Y**.

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____ [1]

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(c) Tomhais 5 cm^3 de shreabhán **Y** agus 5 cm^3 de shreabhán **Z** agus aistrigh iad isteach i bpromhadáin fiuchta ar leith. Cuir 10 cm^3 d'uisce dí-ianaithe le gach promhadán fiuchta. Cuir dallán i ngach promhadán fiuchta agus croith iad go réidh. Lig do na meascáin síothlú.

(i) Taifead na breathnuithe atá déanta i ngach promhadán fiuchta.

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____ [1]

(ii) Cuir 5 cm^3 de thuaslagán iaidín le gach promhadán fiuchta. Cuir na dalláin ar ais agus croith na promhadáin fiuchta go réidh. Lig do na meascáin síothlú. Cuir síos ar na breathnuithe atá déanta.

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____ [2]

(iii) Ó na tástálacha a bhí déanta in **(c)(i)** agus **(c)(ii)** araon, is féidir a dhéaduchtú gur sreabhán orgánach atá sáithithe é sreabhán **Z**. Mínigh an dóigh a dtacaíonn na breathnuithe seo leis an déaduchtú seo.

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____ [2]

SEO DEIREADH AN SCRÚDPHÁIPÉIR SEO

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NÁ SCRÍOBH AR AN LEATHANACH SEO

Cuireadh isteach ar chead chun an t-ábhar cóipchirt uile a atáirgeadh.
I gcásanna áirithe is féidir nár éirigh le CCEA teagmháil a dhéanamh le húinéirí cóipchirt agus beidh sé sásta na hadmhálacha sin a fágadh ar lár a chur ina gceart amach anseo ach é a chur ar an eolas.

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ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2019

Chemistry

Assessment Unit AS 3

Basic Practical Chemistry

Practical Booklet A

[SCH31]

WEDNESDAY 1 MAY, MORNING

APPARATUS AND MATERIALS LIST

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Advice for centres

- All chemicals used should be at least laboratory reagent specification and labelled with appropriate safety symbols, e.g. irritant.

- For centres running multiple sessions – candidates for the later session should be supplied with clean, dry glassware. If it is not feasible, then glassware from the first session should be thoroughly washed, rinsed with deionised water and allowed to drain.

- Ensure all chemicals are in date otherwise expected observations may not be seen.

- It is the responsibility of the centre to be cognisant of all health and safety issues and to carry out a thorough risk assessment. Up to date information can be obtained at www.cleapss.org.uk

- Please note that for question 1(a) candidates are required to have a power pack within their supplied materials. CCEA stipulate that candidates must work on an individual basis in GCE chemistry practical examinations. Therefore, if centres do not have access to power packs for every individual candidate, they should manage the practical session so that half the class are completing question 1 whilst the other half are completing question 2. Then rotate.

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Practical Examination

Each candidate must be supplied with safety goggles or glasses.

Question No. 1

Each candidate must be supplied with:

- access to 6V dc power pack and bulb;
- two graphite electrodes;
- electrical leads and crocodile clips;
- a small spatula, e.g. Nuffield Raised Centre Spatula (or similar);
- one beaker with 50 cm^3 capacity;
- one beaker with 100 cm^3 capacity;
- one glass stirring rod;
- one measuring cylinder with 50 cm^3 capacity;
- a boiling tube rack;
- a boiling tube holder;
- three boiling tubes;
- one Bunsen burner;
- one heatproof mat;
- two wooden splints;
- one bung (to fit boiling tube) fitted with a delivery tube;
- one filter funnel;
- filter paper;
- one conical flask with 100 cm^3 capacity;
- six dropping pipettes;
- one watch glass;
- one clean nichrome wire loop;
- a wash bottle containing deionised water;
- approximately 10 g of sodium hydrogencarbonate labelled **W** (for use in questions 1 and 2)
- access to a kettle of warm deionised water

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- approximately 10 cm^3 of a saturated solution of calcium hydroxide in a reagent bottle/beaker labelled **limewater**;
- approximately 40 cm^3 of 0.5 mol dm^{-3} copper(II) sulfate solution (125 g dm^{-3} hydrated copper(II) sulfate) labelled **copper(II) sulfate solution** and **corrosive**.
- approximately 20 cm^3 of 1.0 mol dm^{-3} hydrochloric acid labelled **dilute hydrochloric acid** and **corrosive/irritant**
- approximately 20 cm^3 of barium chloride solution in a reagent bottle labelled **barium chloride solution** and **harmful**. This solution should be approximately 0.1 mol dm^{-3} (21 g dm^{-3} for $BaCl_2$ or 24 g dm^{-3} for $BaCl_2.2H_2O$).
- approximately 20 cm^3 of silver nitrate solution in a reagent bottle labelled **silver nitrate solution**. This should be approximately 0.1 mol dm^{-3} (17 g dm^{-3}).

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Question No. 2

Each candidate must be supplied with:

- one boiling tube rack;
- six boiling tubes;
- three stoppers (to fit boiling tubes);
- a small spatula, e.g. Nuffield Raised Centre Spatula (or similar);
- three × measuring cylinders with 10 cm^3 capacity;
- two glass stirring rods;
- access to plastic graduated dropping pipettes;
- tweezers
- approximately 50 cm^3 of 1.0 mol dm^{-3} ethanoic acid labelled **X**.
- approximately 50 cm^3 of deionised water labelled **Y**.
- approximately 10 cm^3 of hexane in a sealed container labelled **Z** and **caution** and **flammable**.
- two calcium granules in a sealed container labelled **calcium** and **flammable** and **caution**.
- approximately 10 cm^3 of 0.01 mol dm^{-3} iodine solution labelled **iodine solution** and **caution**.

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ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2019

Chemistry

Assessment Unit AS 3

Practical Assessment

Practical Booklet A

[SCH31]

WEDNESDAY 1 MAY

Confidential Instructions to the Supervisor of the Practical Examination

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INSTRUCTIONS TO THE SUPERVISOR OF THE PRACTICAL EXAMINATION

General

1. The instructions contained in this document are for the use of the Supervisor **and are strictly confidential**. Under no circumstances may information concerning apparatus or materials be given before the examination to a candidate or other unauthorised person.

2. In a centre with a large number of candidates it may be necessary for two or more examination sessions to be organised. **It is the responsibility of the schools to ensure that there should be no contact between candidates taking each session.**

3. A suitable laboratory must be reserved for the examination and kept locked throughout the period of preparation. Unauthorised persons not involved in the preparation for the examination must not be allowed to enter. Candidates must not be admitted until the specified time for commencement of the examination.

4. The Supervisor must ensure that the solutions provided for the candidates are of the nature and concentrations specified in the Apparatus and Materials List.

5. **The Supervisor is to be granted access to the Teacher's Copy of Practical Booklet A on Monday 29 April 2019.** The Supervisor is asked to check, at the earliest opportunity, that the experiments and tests in the question paper may be completed satisfactorily using the apparatus, materials and solutions that have been assembled. **This question paper must then be returned to safe custody** at the earliest possible moment after the Supervisor has ensured that all is in order. **No access to the question paper should be allowed before 29 April 2019.**

6. Centres may need to carry out multiple sessions to accommodate all their candidates sitting Practical Booklet A in a laboratory. Supervision must take place from 30 minutes after the scheduled starting time of the examination, as set out in the timetable, until the time when the candidate(s) begin(s) their examination(s). This is in order to ensure that there is no contact with other candidates. The centre must appoint a member of staff from the centre to supervise the candidate(s) at all times while he/she is on the premises.

7. All apparatus should be checked before the examination, and there should be an adequate supply of spare apparatus in case of breakages. The Apparatus and Materials List should be regarded as a minimum and there is no objection to candidates being supplied with more than the minimum amount of apparatus and materials.

8. **Candidates may not use text books and laboratory notes for reference during the examination, and must be informed of this beforehand.**

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9. Clear instructions must be given by the Supervisor to all candidates at the beginning of the examination concerning appropriate safety procedures and precautions. Supervisors are also advised to remind candidates that all substances in the examination must be treated with caution. **Only those tests specified in the question paper should be attempted. Candidates must not attempt any additional confirmatory tests**. Anything spilled on the skin should be washed off immediately with plenty of water. The use of appropriate eye protection is essential.

10. Supervisors are reminded that they may not assist candidates during the examination. However if, in the opinion of the Supervisor, a candidate is about to do something which may endanger him/herself or others, the Supervisor should intervene. A full written report must be sent to CCEA at once.

11. Upon request, a candidate may be given additional quantities of materials (answer paper, reagents and unknowns) without penalty. No notification need be sent to CCEA.

12. The examination room must be cleared of candidates immediately after the examination.

13. No materials will be supplied by CCEA.

14. All JCQ procedures for conducting examinations should be followed for this practical examination including displaying JCQ posters with examination information in the laboratory and removal of mobile phones. Posters should be available from your Examinations Officer.

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Northern Ireland Council for the Curriculum, Examinations and Assessment

General Certificate of Education

Advanced Subsidiary

Chemistry

Practical Booklet A

[SCH31]

Wednesday 1 May 2019

Centre Number

71

Candidate Number

This report must be completed by the Supervisor during the examination. The complete report should include all candidates taking this Practical Examination. This Supervisor's Report should be copied and attached to **Each Advice Note** bundle and returned to CCEA in the normal way.

Comments:

Supervisor's Signature . . . . Date . . . .