## PERFECT STEPS PUBLISHERS

END TERM EXAMS 2015

**0721 745374/ 0721 707626 NAIROBI**

**Form 2Marking scheme**

**1**1a)



b) The charred part was in contact with the outer part of the flame is hotter due to complete combustion of the gas. 1

- The inner part of the flame contains unburnt gas due to incomplete combustion 1 hence not charre

**2.** a) It absorbs both carbon (IV) oxide initially present and that produced by the burning candle. 

 b) Calibrating the gas jar.  inorder to determine the volume of oxygen used.

 c) Nitrogen

3a) 4 and 5

 ***The two must be present for one to score the mark***

 b) 2 and 3 or yellow and red

**4**a) Hydrogen / H2(g)

 b) Wet sand 1 ; to generate steam to drive out air 1 present.

**5a)** i) Presence of water 🗸1 and air 🗸1

 ii) - Painting

 - Electroplating

 - Greasing.

b) Rusting is escalated by salt in the sea water.

c) Zinc being more reactive than iron corrodes preferentially, protecting iron.



d)

 ii) By reducing the size of sodium peroxide particles

6a) - bhang ½

 - alcohol ½

 - tobacco ½ ***any 2 correct***

b) - prescription drugs - drugs bought from a pharmacy with doctors instructions 1

 - over the counter drugs - drugs bought without doctors prescription 1

7a) Fractionating column ½

 b) Fractional distillation ½

 c) Condensation would not occur 1

 d) Differences in boiling points 1

8)a)Metallic(1mk)

b)Group 1;it has one delocalised electron

9)



g) 1

**9.** i) I. Z ½

 II. Y ½

10a) Ammonia 1

 b) Filtration 1 / precipitation 1

 / crystallisation 1

 c) 2NaHCO3(s)  Na2CO3(s) + CO2(g) + H2O(g) 1

**11.** i) I. Z ½

 II. Y ½ii)

 ii) Amphoteric 1

12)a)S

b)R

c)S,P,Q,R

13)a)B

b)C

c)D

14a) i) It changed from blue to white 1

 ii) Liquid P is water 1

 Accept H2O

iii) Add 1 liquid P to white anhydrous ½ copper (II) sulphate which will be turned to blue ½

 Or

 Add 1 liquid P to blue anhydrous ½ cobalt (II) chloride which will be turned to pink 

15a) Transition elements / metals 1

 b) J / Mg 1

 c) K / Cl2 1

 d) On the grid 1

  e) The atomic radius of U is smaller than that of J 1

 Reason : There is decrease in atomic radius across the period due to increase in the nuclear charge (no. of protons) ½ thus pulling the outer electrons of U closer to the nucleus ½

 f) A2O(s) + H2O(l)  2AOH(aq) 1

 g) Y is a better conductor than A 1since it has more delocalised electrons than A 1

 b) i) On the grid provided

16.The bulb lights. This is because molten lead (II) bromide conducts electricity which flows through the circuit.

- Red brown vapour is observed at the anode while a grey solid deposits on the cathode.

- Molten lead (II) bromide is decomposed by the electric current and Pb2+ move to the cathode are discharged forming grey lead metal white the Br-ions move to the anode and are discharged forming red brown bromine vapour. ***1*** ***3 marks***

17.a)Diamond(1mk)

b)it has weak van der waal forces making the layers to slide over one another,thus leaving a mark on apiece of paper(1mk)

18.i)To observe reactions clearly as they occur(1mk)

iiGlass does not react with most chemicals.(1mk)

19)i)mass decreases;copper reacts with oxygen to form copper (II) oxide,hence oxygen is added.(2mks)

ii)Mass decreases;CuCO3 decomposes on heating to form carbon (IV) oxide which is gaseous and hence escapes.(2mks)

20)a)Molecules vibrate vigorously as they gain heat energy due to increase in kenetic energy(1mk)

b)T1-melting point and T2-boiling point are used to determine the purity of asubstance.(1mk)

c)Heat energy absorbed is used to overcome the forces of attraction between solid molecules at the melting point.(1mk)

d)yes;it has aconstant melting point and boiling point(1mk)

21)-React excess lead(ii) oxide with dilute nitric acid

-filter; to obtain lead(ii)nitrate as filtrate

-dissolve sodium sulphatenin water to form a solution

-mix the solutions;lead (ii) sulphate precipitates

-Filter nad dry between filter papers

22)i)A-hexane(1mk)

B-Water(1mk)

ii)They are immiscible(1mk)

23)i)Heat(1mk)

ii)to drive out all oxygen inorder to prevent an explosion(1mk)

iii)CuO(s)+H2(g) → Cu(s)+H2O(l)(1mk)

iv)To prevent re-oxidation of copper(1mk)