KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

MARANDA HIGH SCHOOL

CHEMISTRY

PAPER 1

MARKING SCHEME

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MARANDA HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

QUESTION PAPER 1

MARKING SCHEME

1. (a) A- Fractionating column
   B- Liebigs condenser
   (b) Increase the surface area for cooling
   (C) The fractions have different boiling points
2. (i) R2 Co3
   M2 (Co3)
   (ii) Add water to the mixture; R2 Co3 dissolves while M2 (Co3)2 is insoluble.
   - Filter to obtain filtrate (R2 Co3) and M2 (C03)3 as residue.
   - Wash the residue with distilled water
   - Dry the residue using filter papers or in the sun.

   (iii) The outermost Electron in R is more loosely held than in L. therefore more easily lost.
3. (i) The volume of the solution increased. Concentrated sulphuric acid is hygroscopic absorbs water from the atmosphere.
   (ii) Hydroscopic nature of concentrated sulphuric acid.
4. (a) Amount of solute that dissolves in 100g of a given solvent at a particular temperature.
   (b) Mass of solution = 36.51 – 15.13 = 21.38
   Mass if salt = (19.4 – 15.13)g = 4.28g
   Mass of water = mass of solution – mass of salt (21.38 – 4.28)g = 17.1g of water.
   17.1g of water dissolve 4.28g of salt (KNo3)
   100g of water = (100 x 4.28)g 100g H20)
   17.1
   = 25.0292g/100g H2o)
7. (i) Pb I 2
   (ii) Pb 2+ + 2I - _____Pb I 2 (5)
   (aq) (aq)
8. Zn Co3 (s) _____Zn O (s) + Co2 (s)
   RFM of Zn Co3 = 125
   Moles of Zn Co3 = 2.5 = 0.02 moles
   125
   Mole ratio ZnCo3 : Co2 = 1:1
   1 Mole of Co2 =224000cm3
   0.02 moles Co2 = 0.02 x 22400 = 448cm3
9. (i) Dative covalent bond
   (ii) Covalent bond
10. (i) 2 – methylbut – I – ene
    (ii) 3- methylpentan – 1- 01
    (iii) Butanoic acid
11. (i) Lime water forms a white precipitate
    Brown solid forms in the boiling tube
    (ii) Extraction of metals which are lower in the electrochemical series from their oxides eg Zn,Cu, Pb, Fe etc.
12. (a) (i) Brown fumes observed
    Pale green solution turned yellow in colour.
    (ii) Brown precipitate formed.
    (b) Fe 3+ + 3 OH _____ Fe(OH)3
13. (a) NO effect: The volume ration of reacting gases and product gas is the same.
    (b) Increase in temperature favours forward ratio and equal shift to the right. More NO gas is formed.
14. (i) Exothermic; product are at a lower energy level than the reactants.

(ii) (I) Activation energy = 60 – = 20 kj.