KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

SACHO HIGH SCHOOL

CHEMISTRY

PAPER 2

MARKING SCHEME

SCHOOLS NET KENYA
Osiligi House, Opposite KCB, Ground Floor
Off Magadi Road, Ongata Rongai | Tel: 0711 88 22 27
E-mail:infosnkenya@gmail.com | Website: www.schoolsnetkenya.com

SACHO HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016
QUESTION PAPER 2
MARKING SCHEME

1. (i) $6O^{2-}_{(l)} \longrightarrow 3O_{2(g)} + 12e$ (Anode) (1mk)
$Al^{3+} + 12e \longrightarrow 4Al_{(l)}$ (cathode) (1mk)
(ii) At the electric temperature graphite roads reacts completely with oxygen to form Carbon (IV) oxide, though the rods are eroded completely. (1mk)
(iii) Molten cryolite is added which lower up of the one which eventually lowers running costs of the system (2mks)
(iv) I. For making overheat cables for electrical transmission
II. Making utensils such as sufurias ½mk
III. An alloy with Mg metal calleu dulamin for making parts of captures and Cal on bodies
IV. In making Aluminium paints
V. $4AL^{3+}_{(l)} + 12e \longrightarrow 4Al_{(l)}$
4moles of e- yield 4moles of Al ½mk
Q = it = 100 x 15 x 60 = 5400000C ½mk
If 12 x 96500C 4 x 27g
5400000 =?
$\frac{5400000}{12 \times 96500} \times \frac{4 \times 27}{1000} = 0.5036Kg$ (1mk)

2. (a) (i) water…….1mk
(ii) Titration……1mk
(iii) Chlorine gas……1mk
III. (i) uses of sodium hydroxide
- Manufacture of soap/detergent
- In beer industry
- In paper industry (any two)
- (ii) Reasons why Hg is recycled;
- Mercury is expensive √(1mk)
- Mercury is poisonous as hence should not be left to get into water system √(1mk)

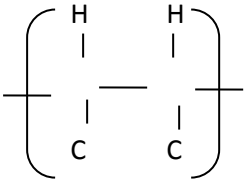
IV. $2Na_{3(s)}/Hg_{(l)} + 2H_2O_{(l)} \longrightarrow 2NaOH_{(aq)} + 2Hg_{(l)} + H_{2(g)}$
(b) rule ratio of 2NaOH: H_2
2 : 1√(½mk)
Moles of H_2 = 50l = 2.232moles √(½mk)
Moles of NaOH = 2.232 x 2 = 4.454 moles √(½mk)
Mass of NaOH = 4.46 x 40 = 178.57g √(½mk)

3. (a) (i) Add the liquid to anhydrous copper(II) sulphate, the water solid turns blue if the liquid is water
Or – Add the liquid to anhydrous pink cobalt (II) chloride , if the solid turns to blue, confirms the liquid to be water.
(b) (i) gravel √(1mk)
(ii) sedimentation √(1mk)
(iii) (i) To settle small soil particles √(1mk)
(ii) Fractional distillation √(1mk)
Or through addition of Sodium carbonate
Or by use of ion exchange resins √(1mk) (any 1)

4. (a) (i) Alkaline earth metals √(1mk)
(ii) A_1 A_1 √(1mk)
(iii) Content √(1mk)- they show electrons while binding ionize they are non-mixtures √(1mk)
(iv) D_2O_3 √(1mk)
(v) Immediately before E √(1mk)
(b) (i) **H** √(1mk) (ii) **K**√(1mk)
(iii) I. **L** √(1mk) II. **J** √(1mk)

5. (a) (i) Alkynes √(1mk) (ii) Esters √(1mk)
(b) (i) Vulcanization √(1mk)
(ii) It hardens the natural ribbon √(1mk)

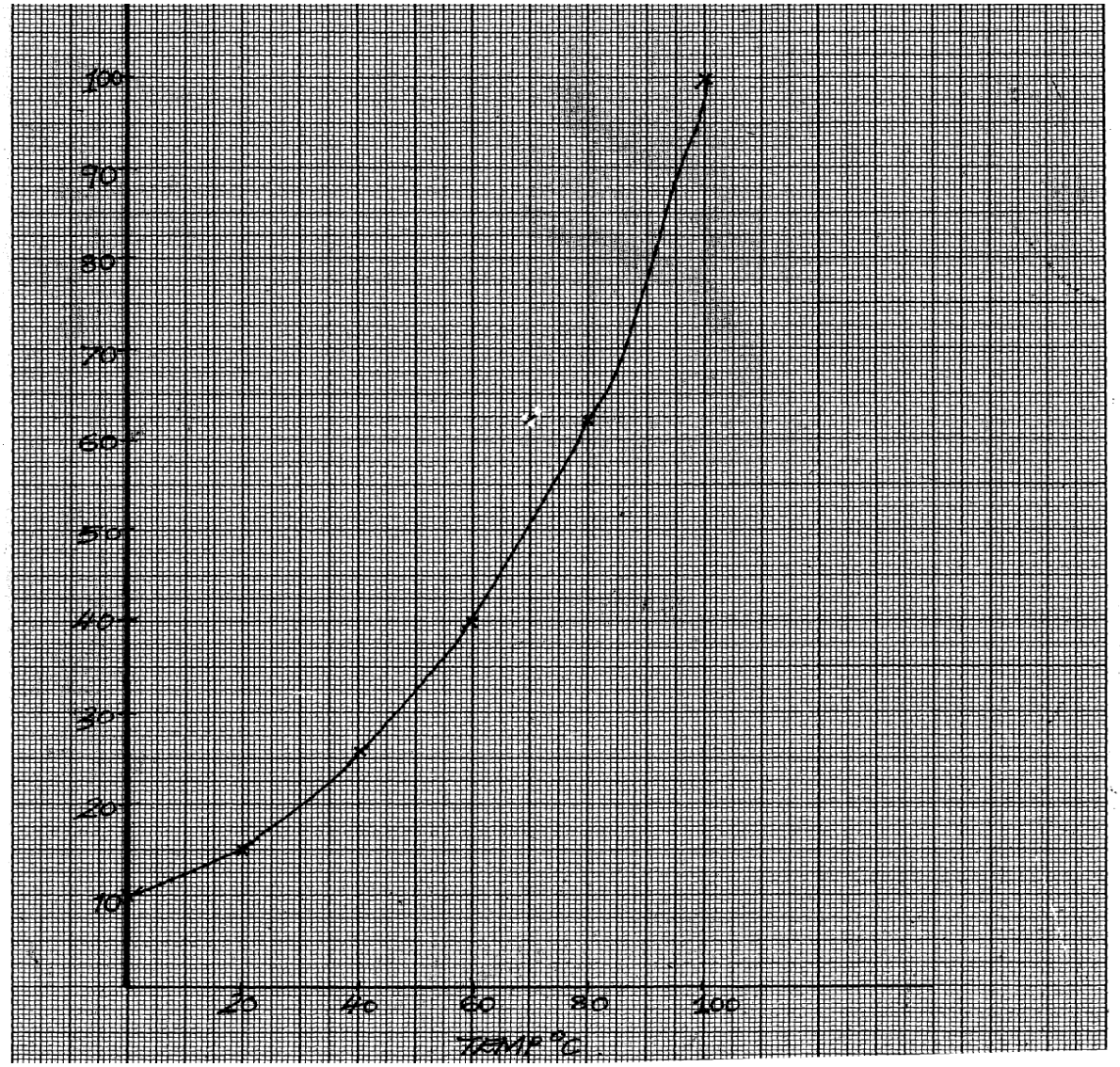
(c) (i) $2CH_3CH_2CH2OH_{(l)} + 2Na_{(s)} \longrightarrow 2CH_3CH_2CH_2ONa_{(aq)} + H_{2(g)}$
(ii) 1- dehydration √(1mk)
2 – Hydrogenation √(1mk)
(iii) **A** – 1,2 dibromoe propane √(1mk) **B** – Ethene √(1mk)
(iv) Nickel √(½mk)
(v)



(d) - uses of methane;
- used as fuel √(1mk)
- used as astarting material for manufacture of chloroform, carbon etc.
(e) – sodium floats because it is less dense √(1mk)
- Effervescence seen a gas is formed √(1mk)
- Hissing sound heard because hydrogen gas is formed√(1mk)

6. (a) (i) 30^oC
(ii) Solubility of reaction 1.6g/with ½
Mass of crystals = 20-16 = 4.0g of crystals √(½mk)
(iii) Cool the saturated solution from65^oC to 40^oC then settle this solution heat it to dryness it
The mass of crystals which were then be formed will be 30g
(b) (i) KCl; √(1mk)
(ii) fractional crystallization √(1mk)
(iii) Na_2CO_3 √(1mk)

GRAPH OF SOLUBILITY OF X AGAINST TEMPERATURE



7. (a) (i) **B**- Copper electrode √(1mk)

ii) **Y** – oxygen √(1mk)

(iii) Less energy is required to oxidize √(1mk) Cu metal than oxidize H+ ions. √(1mk)

(b) (i) reducing agent – Fe^{2+} √(1mk)

(ii) F_2O

(b) Fe^{3+} √(½mk) & $Cl_{2(g)}$ √(½mk)

(c) (i) $E = E^{\theta} - E^{\theta}$

$= -0.77 - - 1.52$

$= 0.77 + 152$

$= 1.52 - 0.77 = +0.75v$ √(1mk)

(ii) $Fe^{4-} + Fe^{2+} \longrightarrow Fe^{3+} + e$ √(1mk)

(iii) e.m.f remains the same – the charge reaction dos not affect √(1mk)