SERIES 34 EXAMS

CHEMISTRY PAPER 3
MARKING SCHEME

1. TABLE I
C.T - 3
D.P - 1
AC - 1
TR. 1

2. (i) GRAPH *(6mrks)*
Scale - ½
Label - ½
Plots - 1
Line - 1
(3mrks)

(ii) and (iii) From graph *(2mrks)*
Table II

CT - 1
D.P - 1
AC - 1
P.A -1
F.A -1
(5mrks)

Calculation
I Correct ans.
II $\frac{0.2\ \sqrt{1}}{1000} \times 25 = 0.005 \text{moles}\sqrt{1}$
III 1 mole (HX) n.2 $H_2O \Rightarrow 126$
x $\Rightarrow 4.5$

$= \frac{4.5}{126}$ √½
= 0.0357 moles √ ½
0.0357 mole ⟶ 250√ ½
Ans (2) I

$\frac{0.0357}{250} \times$ Ans (i) I = correct ans. √½

Ans (i) III $(HX)_n . 2H_2O \Rightarrow 0.005$ mole NaOH

1 mole √ ½ ⇒ 2 moles of NaOH

∴ H X n . 2 H_2O is √ ½ diabasic n = 2 √½
(4mrks)

(a)

Observation	Inferences
- White residue	- Insoluble and soluble
- Colourless solution	salts suspected
(1mrk)	*(1mrk)*

(i)

Observation	Inferences
- White ppt Soluble in excess ***(1mrk)***	Pb^{2+}, Al^{3+} ,Zn^{2+} suspected ***(1mrk)***

(ii)

Observation	Inferences
- No white ppt - No effervescence ***(1mrk)***	Ba^{2+}, Pb^{2+} Ca^{2+} absent. CO_3^{2-} absent ***(1mrk)***

(iii)

Observation	Inferences
White ppt ***(½ mrk)***	SO_4^{2-} present ***(½ mrk)***

(b)

Observation	Inferences
- Effervescence - Blue litmus turns red ***(1mrk)***	CO_3^{2-} present ***(½ mrk)***

(i)

Observation	Inferences
- White ppt dissolves in excess ***(1mrk)***	Pb^{2+}, Zn^{2+}, Al^{3+} present ***(1mrk)***

(ii)

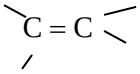
Observation	Inferences
- White ppt dissolves in excess ***(1mrk)***	- Zn^{2+} present ***(1mrk)***

3. (a)

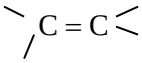
Observation	Inferences
- burns with a blue flame√	- C – OH suspected√

(½ mrk) ***(½ mrk)***

(b)

Observation	Inferences
- Purple potassium Manganode (VII) decolourised√	 - C≡ C – R - OH
(1mrk)	***(1mrk)***

(c)

Observation	Inferences
Bromine water not decolourised√	 , - C ≡ C - absent or R – OH present√
(1mrk)	***(1mrk)***

(d)

Observation	Inferences
No effervescence√	 - C - OH absent R - OH confirmed
(½ mrk)	***(½ mrk)***