Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Aldehydes & ketones

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Name of the Student:_____
Max. Marks :19 Marks **Time :19 Minutes**

Mark Schemes

Q1.

(a) Pentan-2-one **1**

(b) (i) 1680 – 1750 (cm^{-1}) **1**

(ii) 3230 – 3550 or 1000 – 1300 (cm^{-1}) **1**

(iii) 4 **1**

(c)

Reagent	$K_2Cr_2O_7/H^+$	$KMnO_4/H^+$	Na	CH_3COOH/H_2SO_4
with **C**	no reaction	no reaction	no reaction	no reaction
with **D**	goes green	goes colourless	effervescence	smell

1 **1** **1**

(penalise incomplete reagent e.g. $K_2Cr_2O_7$ or $Cr_2O_7^{2-}/H^+$ then mark on)

(d)

Reagent	Tollens	Fehlings or Benedicts
with **E**	silver (mirror)	red ppt or goes red *(not red solution)*

1 **1**

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Q2.

B

[1]

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Q3.

(a) (i) propyl methanoate **(1)**

not propanyl

- *A wrong reagent or no reagent scores zero*
- *An incomplete reagent such as silver nitrate for Tollens, or potassium dichromate loses the reagent mark, but can get both observation marks*
- *penalise observations which just say colour change occurs or only state starting colour*

(ii) *Reagent*: $NaHCO_3$**(1)**
Observation with ***C***: no reaction **(1)**
Observation with ***D***: effervescence **(1)**

for ***C*** *and* ***D*** *NOT Tollens*

Test	an identified (hydrogen) carbonate	acidified $K_2Cr_2O_7$	acidified $KMnO_4$	correct metal	UI or stated indicator	PCl_5
Observation with C	no reaction	goes green	goes colourless	no reaction	no change	no reaction
observation with D	bubbles or CO_2	no change	no change	bubbles or H_2	red or correct colour pH 3 – 6.9	(misty) fumes

4

(b) (i) *Reagent*: pentan-2-one **(1)**

or 2-pentanone

but not pent-2-one or pentyl

(ii) *Reagent*: Tollen's or Fehling's **(1)**

Observation with ***E***: no reaction **(1)**

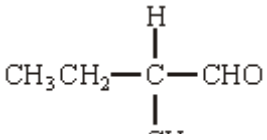
Observation with ***F***: silver mirror or red ppt **(1)**

for **E** and **F**

Test	Tollens	Fehlings or Benedicts	iodoform or I_2/NaOH	acidified $K_2Cr_2O_7$	Schiff's
observation with E	no reaction	no reaction	yellow (ppt)	no change	no reaction
observation with F	silver or mirror or grey or ppt	red or ppt not red solution	no reaction	goes green	goes pink

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(c)  **(1)**

must be aldehyde. Allow C_2H_5 for CH_3CH_2 otherwise this is the only answer

1

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