

Name of the Student: _____

Max. Marks :17 Marks

Time :17 Minutes

Mark Schemes

Q1.

- (a) **M1** Misty / white / steamy fumes
M1 (immediate) White precipitate forms

M2 No visible change
M2 White precipitate forms slowly

2

- (b) **M1** Propanal AND (blue solution gives a brick) red precipitate

If **M1** incorrect, allow ECF for suitable tests on remaining liquids

M1	(Warm with) acidified potassium dichromate (VI)	add Na	warm with a named carboxylic acid with conc H_2SO_4	(Warm with) acidified potassium manganate (VII)
M2	Propan-1-ol/alcohol AND (orange solution) goes green	Propan-1-ol/alcohol AND effervescence	Propan-1-ol/alcohol AND fruity smell	Propan-1-ol/alcohol AND (purple solution) goes colourless

3

[5]

Q2.

(a) **M1** Electrophilic Addition

M2 HBr

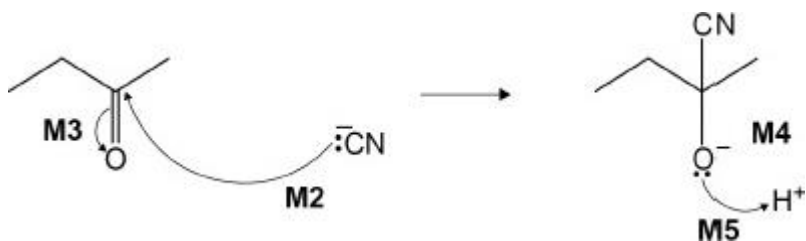
2

(b) **M1** Butan-2-ol or correct structure eg $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$

M2 NaOH AND (warm) aqueous (Allow cold if stated)

2

(c) **M1** HCN or KCN/ H_2SO_4



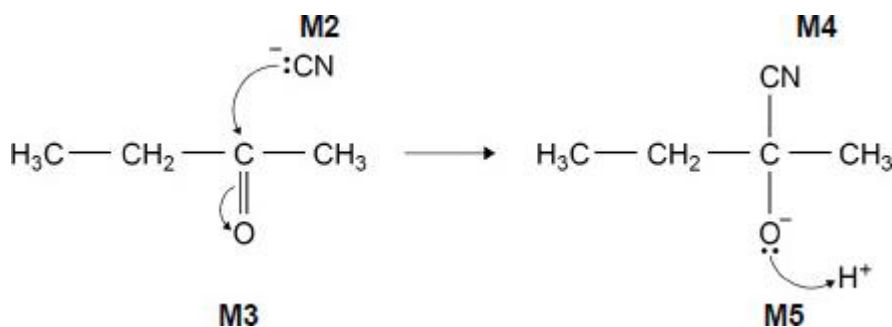
M2 Arrow from lone pair on C to C of $\text{C}=\text{O}$

M3 Arrow from $\text{C}=\text{O}$ to O

M4 Structure of intermediate including negative on O

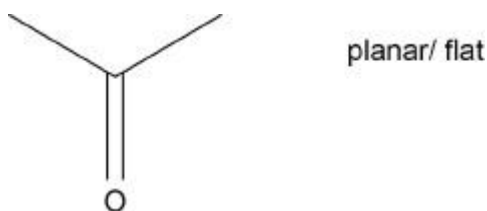
M5 Arrow from lone pair on O to H^+

OR



5

(d)



Allow planar carbonyl group

M2 Equal chance (50/50) attack from above/below OWTTE
Either side

M3 Giving equal amounts of both optical isomers/enantiomers

3

[12]