Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Amines

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Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 24 Marks **Time : 24 Minutes**

Mark Schemes

Q1.

H CH_3CN or ethanenitrile **1**

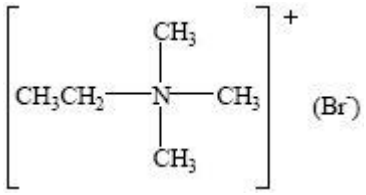
S $CH_3CH_2NH_2$ or ethylamine 1Step 1 KCN **1**

aq/alcoholic **1**

Step 2 H_2 **1**

Ni **1**

W secondary amine **1**



1

nucleophilic substitution **1**

[9]

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Q2.

(a) (i) $CH_3CH=CHCH_3$

1

Addition or radical (**QoL**)

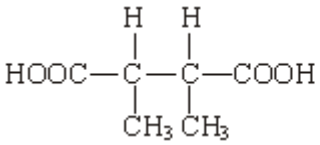
1

(ii) $CH_3CH(OH)CH(OH)CH_3$ or with no brackets

1

butan(e)–2,3–diol or 2,3–butan(e)diol

1



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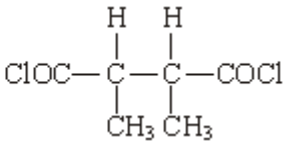


1

2,3–dimethylbutan(e)dioic acid 2,3–dimethylbutan(e)dioyl chloride

ignore –1,4–

1

condensation (**QoL**)

1

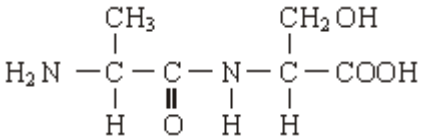
(iii) NaOH or HCl etc or Na_2CO_3

Allow conc sulphuric/nitric

***NOT** water nor acidified water nor weak acids*

1

(b) Structure 1



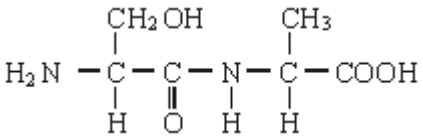
Allow –CONH– and –COHN–

Allow zwitterions

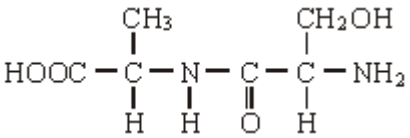
NOT polypeptides/repeating units

1

Structure 2 either of



or



1

(c) (i) $CH_3CH_2CH_2Br$

allow –Cl, –I

1

(ii) CH_3CH_2CN

1

(iii) (nucleophilic) substitution or from $CH_3CH_2CH_2Br$

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if reduction written here, no further marks

1

further substitution/reaction occurs or other products are formed

Allow reduction forms only one product

1

one of
$(CH_3CH_2CH_2)_2NH$
$(CH_3CH_2CH_2)_3N$
$(CH_3CH_2CH_2)_4N^+ Br^-$

Allow salts including NH_4Br

Allow HBr

1

[15]

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