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

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Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Mark Schemes

Q1.

(a) A catalyst in the same phase/phase as the reactants

1

(b) (i) A reaction in which a product acts as a catalyst

1

(ii) Mn^{2+} or Mn^{3+}
"Self-catalysing" not allowed

1

(c) (i) $2CO + 2NO \rightarrow 2CO_2 + N_2$

or $4CO + 2NO_2 \rightarrow 4CO_2 + N_2$
C not allowed as a product

1

Reducing agent CO

1

(ii) Pt, Pd or Rh

1

Deposited on a ceramic honeycomb or matrix or mesh or sponge

1

To increase surface area of catalyst

1

(d) (i) Reactants cannot move on surface or products not desorbed or
Active sites blocked

1

(ii) Reactants not brought together or
No increase in reactant concentration on catalyst surface or
Reactants not held long enough for a reaction to occur or
Reactant bonds not weakened

1

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Q2.

(a) (i) UV light OR sunlight OR T $\geq$ 450°C **(1)**

NOT high T

(ii) (free) radical substitution **(1)**

(iii) CCl_4 **(1)** OR named

3

(b) (i) $CH_3Cl + KCN \rightarrow CH_3CN + KCl$ **(1)**

CN^- Cl^-

(ii) nucleophilic substitution **(1)**

(iii) C–Br bond is weaker (than C–Cl bond)
OR C–Br bond enthalpy is less than C–Cl **(1)**

Ignore electronegativity

3

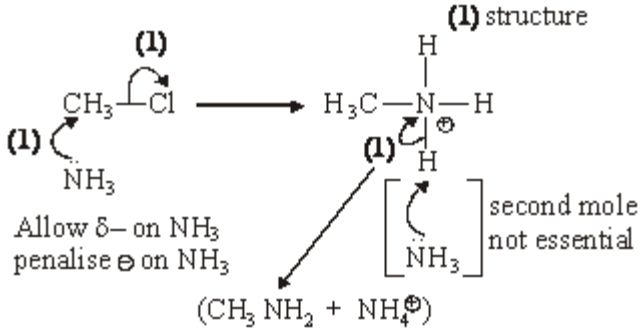
(c) CH_3COOH OR ethanoic acid **(1)**

1

(d) (i) $\overset{\delta+}{C}-\overset{\delta-}{Cl}$ OR C–Cl is polar **(1)** OR C atom is electron deficient / $\delta+$

(ii) methylamine **(1)** only

(iii) S_N1 scores full marks



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