Practice Question Set For A-Level
**Subject : Chemistry**
**Paper-2 Topic: Nuclear Magnetic Resonance Spectroscopy**

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**Name of the Student**:_____
**Max. Marks : 17 Marks** **Time : 17 Minutes**

Mark Schemes

Q1.

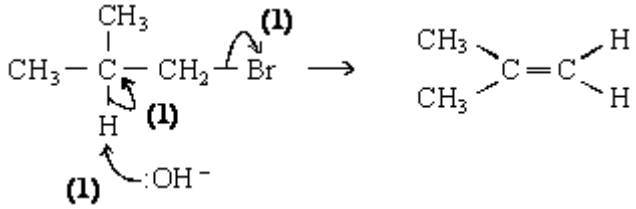
(a) Identity of **X**; 2-methylpropene **(1)**
Absorption at 1650 $cm^{-1}$ indicates an alkene present **(1)**
*OR a chemical answer e.g. $Br_2$ (aq) brown to colourless*

**2**

(b) Reagents
Step 1 KOH (allow NaOH) **(1)** alcoholic **(1)** warm **(1)**
*Only allow solvent and warm if reagent correct*

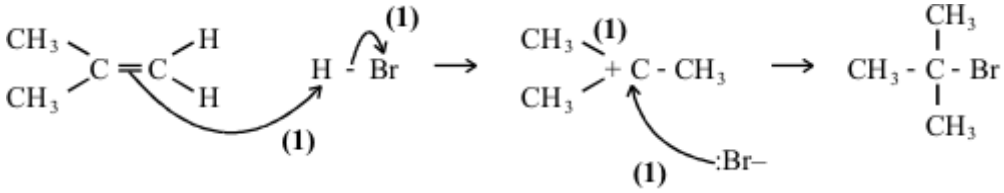
Step 2 HBr **(1)**

Mechanism: A → **X**




*Or a carbocation mechanism*

Mechanism **X** → B




**11**

(c) A gives three peaks **(1)**
B gives one peak **(1)**
*Allow one for "A has more peaks than B" when no number of peaks is given*

**2**

**[15]**

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Q2.

B

**[1]**

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Q3.

D

**[1]**

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