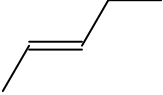
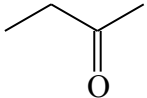
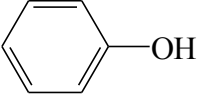
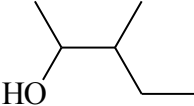
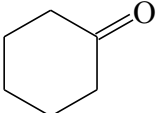
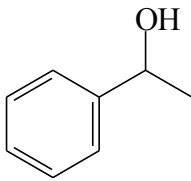
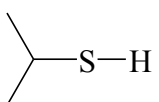
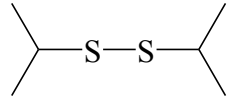
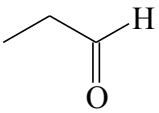
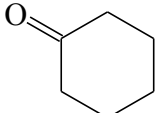
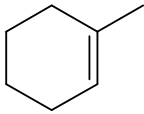
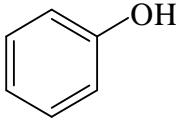
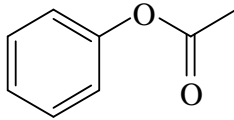
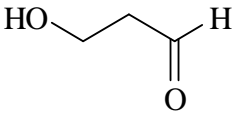
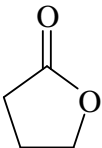
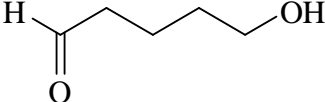


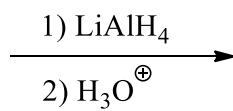
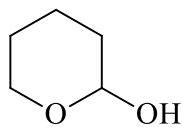
<ul style="list-style-type: none"> Complete the following table. 			Marks 10
STARTING MATERIAL	REAGENT/CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)	
 Name:	excess Br ₂ CCl ₄ solvent		
 Name:	1. LiAlH ₄ 2. dilute HCl		
 Name:	dilute NaOH		
 Name:	Na ₂ Cr ₂ O ₇ in dilute sulfuric acid		
 Name:	excess CH ₃ CH ₂ OH conc. H ₂ SO ₄ catalyst heat		

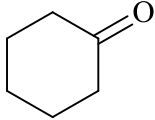
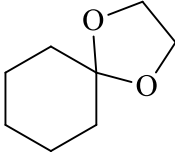
• Complete the following table.			Marks 7
STARTING MATERIAL	REAGENT/CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)	
	hot conc. H ₂ SO ₄		
			
	[Ag(NH ₃) ₂] [⊕] / dilute NaOH		
	2. dilute H [⊕] /H ₂ O		

- Complete the following table.

STARTING MATERIAL	REAGENTS/ CONDITIONS	CONSTITUTIONAL FORMULA(S) OF MAJOR ORGANIC PRODUCT(S)
	HCl / CCl ₄ solvent	
		
$\text{CH}_3\text{CH}_2\underset{\text{Br}}{\text{CH}}\text{CH}_2\text{CH}_3$		$\text{CH}_3\text{CH}_2\underset{\text{Br}^\ominus \text{N}^\oplus(\text{CH}_3)_3}{\text{CH}}\text{CH}_2\text{CH}_3$
	$\text{Cr}_2\text{O}_7^{2\ominus} / \text{H}^\oplus$	
	3 M NaOH / heat	
	catalytic H^\oplus	

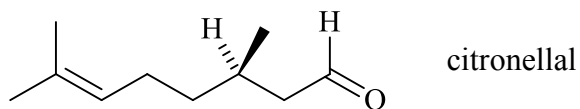
- Give the constitutional formula(s) of the major organic products formed in each of the following reactions:

1

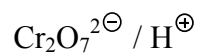
• Complete the following table.			Marks 1
Starting material	Reagent / Conditions	Major organic products(s)	
			

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.

- (+)-Citronellal is a widely occurring natural product present in citronella oil, lemon and lemon grass. It is used as a soap perfume and in insect repellents.

Marks
2

Draw the constitutional formula of the product(s) formed when citronellal is treated with each of the following reagents.



excess CH_3OH / catalytic amount H_2SO_4
