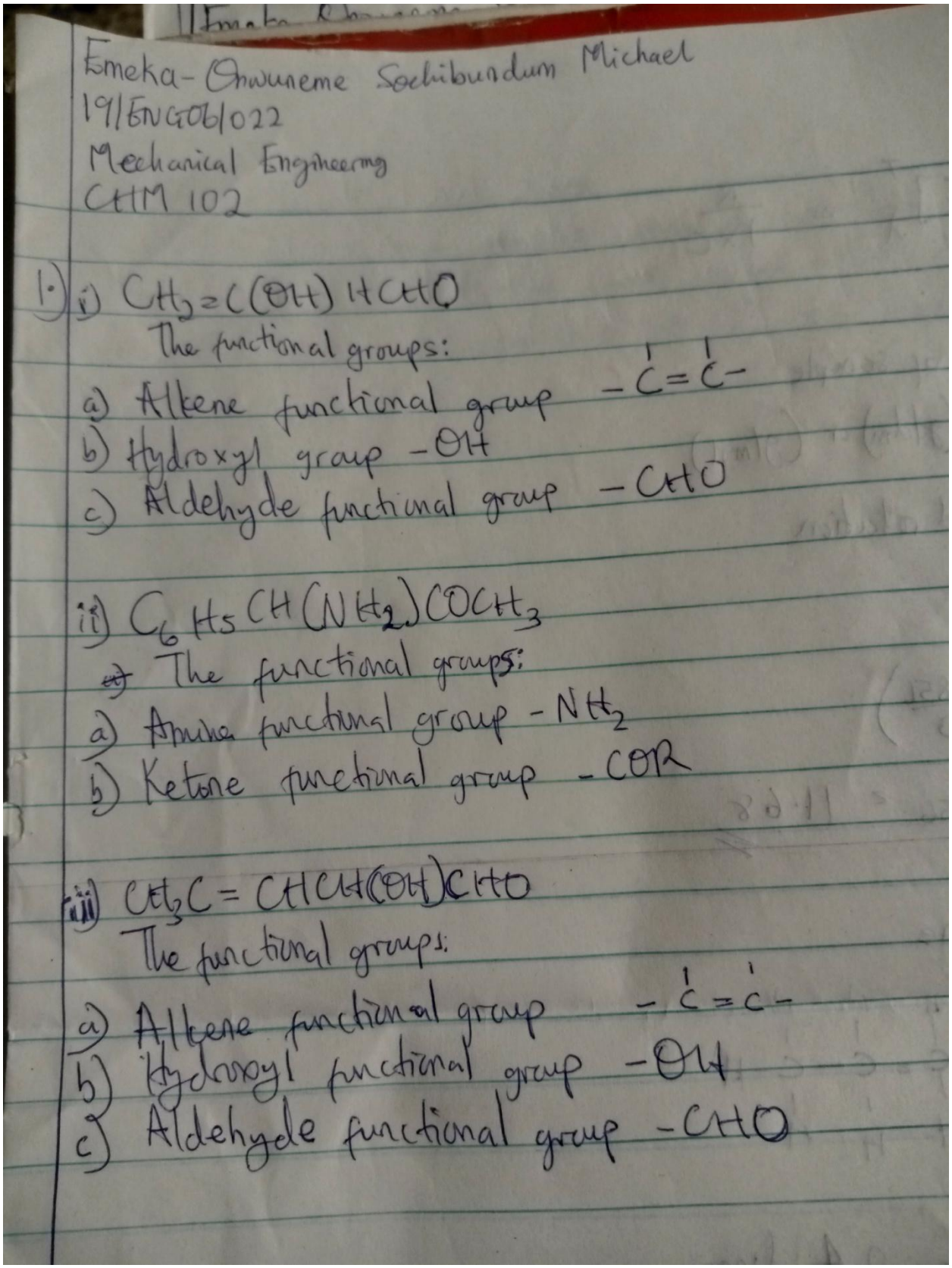
EMEKA-ONWUNEME SOCHIBUNDUM MICHAEL
MECHANICAL ENGINEERING
19/ENG06/022
S/N: 37
CHM102



Emeka-Onwuneme Sochibundum Michael
19/ENG06/022
Mechanical Engineering
CHM 102

1. i) $CH_2=C(OH)HCHO$

The functional groups:

a) Alkene functional group $-\overset{|}{C}=\overset{|}{C}-$
b) Hydroxyl group $-OH$
c) Aldehyde functional group $-CHO$

ii) $C_6H_5CH(NH_2)COCH_3$

The functional groups:

a) Amine functional group $-NH_2$
b) Ketone functional group $-COR$

iii) $CH_3C=CHCH(OH)CHO$

The functional groups:

a) Alkene functional group $-\overset{|}{C}=\overset{|}{C}-$
b) Hydroxyl functional group $-OH$
c) Aldehyde functional group $-CHO$

EMEKA-ONWUNEME SOCHIBUNDUM MICHAEL
MECHANICAL ENGINEERING
19/ENG06/022
S/N: 37
CHM102

2) Recall; $[\alpha]_\lambda^T = \frac{\alpha}{l \times c}$

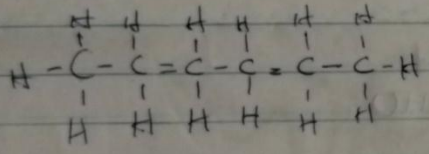
Where
l = length of sample
c = $\frac{\text{mass}}{\text{volume}}$ (g/dm) or (g/mol)
α = observed rotation

$S_2 = \frac{1.0}{1.0 \times \left(\frac{0.856}{10}\right)}$

$S_2 = \frac{1}{0.0856} = 11.68$

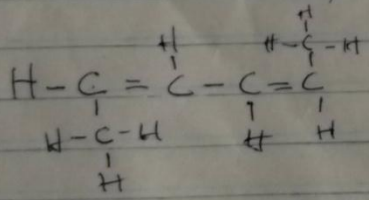
(I)

3) a) Hexa-2, 4-diene



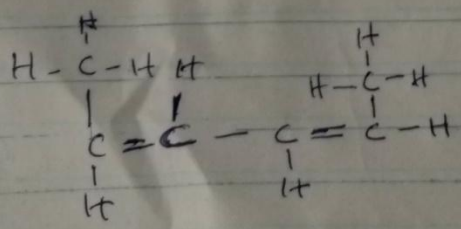
trans-trans-Hexa-2,4-diene

b)



(I) - (i) Hexa-2, 4-diene

c)



trans-(i) or (i) -trans-Hexa-2, 4-diene

3) ii) 2,3-
It d
groups (C
mating
isomers

EMEKA-ONWUNEME SOCHIBUNDUM MICHAEL
MECHANICAL ENGINEERING
19/ENG06/022
S/N: 37
CHM102

3) ii) 2,3-dimethyl but-2-ene

It does not have geometric isomers because there are two identical groups (CH_3) attached to the same carbon of the double bond making it impossible to seperate it into (i) and trans geometric isomers.