TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN MARINE RESOURCES

ACH.4118: ORGANIC CHEMISTRY

END OF SEMESTER EXAMINATION

SERIES: APRIL2016

TIME: 2HOURS

DATE: Pick DateMay2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

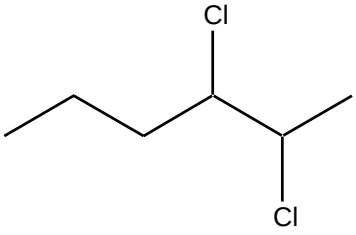
This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

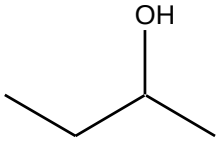
Question ONE

(a) Give IUPAC name to the following compounds

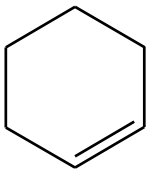
(i)

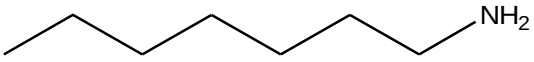


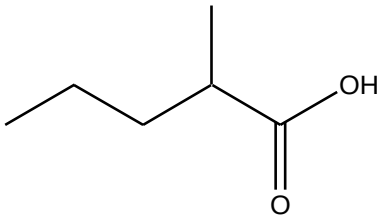
(ii)



(iii)

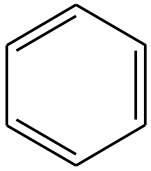


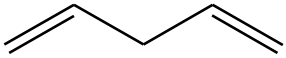
(iv) 

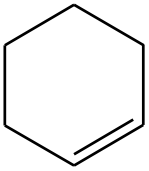
(v) 

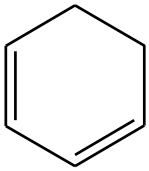
(10mks)

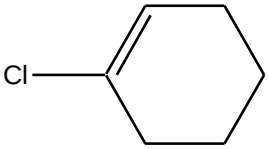
(b) Calculate the degree of unsaturation in the following compounds

(i) 

(ii) 

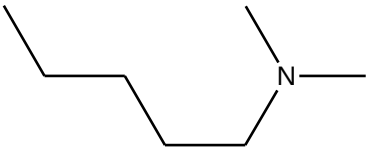
(iii) 

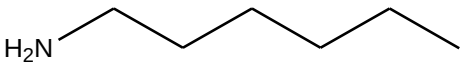
(iv) 

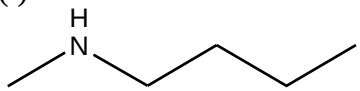
(v) 

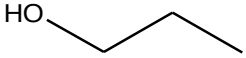
(10mks)

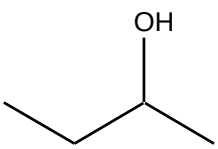
(c) Classify the following compounds either as primary, secondary or tertiary amines, alcohols or alkyl halides or.

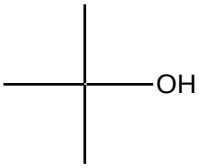
(i) 

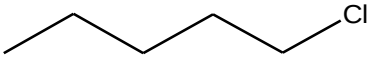


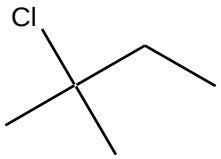


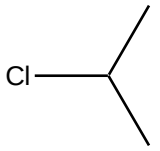
(ii) 





(iii) 





(4.5mks)

(d) Explain the following observations citing an example in each case

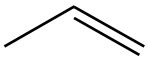
(i) Propene will decolorized bromine water while propane will not (2mks)

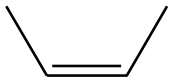
(ii) Alkanes are saturated hydrocarbons while alkanes are not (2mks)

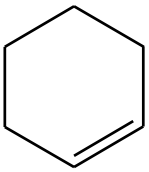
(iii) Alcohols are soluble in water while alkanes are insoluble in water (1.5mks)

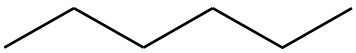
Question TWO

(a) Draw the major products in each of the reactions below

(i)  + H_2 $\xrightarrow{Pt}$

(ii)  + HCl $\longrightarrow$

(iii)  $\xrightarrow{H_2/Pt}$

(iv)  $\xrightarrow{Cl_2/UV\ light}$

(v) CH_4 + O_2 $\longrightarrow$ (10mks)

(b) Explain the following citing an example in each case

(i) Thermal cracking (3mks)
(ii) Catalytic cracking (3mks)
(iii) Markovnikov's rule (3mks)

(iv) Hydration (1mks)

Question THREE

(a) Outline the

(i) Physical properties of alkanes (10mks)

(ii) Physical properties of amines (10mks)

Question FOUR

(a) Outline TWO methods of preparation of the following

(i) Alcohols (5mks)

(ii) Alkenes (5mks)

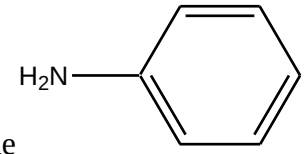
(iii) Alkynes (5mks)

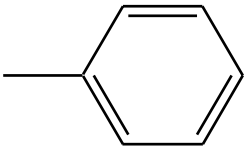
(iv) Amines (5mks)

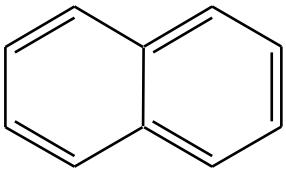
Question FIVE

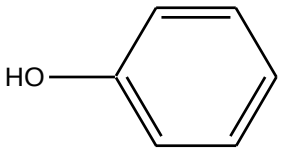
(a) State FIVE properties of benzene (5mks)

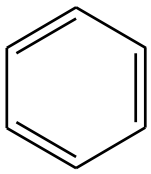
(b) Name the following compounds

(i) Aniline 

(ii)  Toluene

(iii) Naphthalene 

(iv) Phenol 

(v) 

(10mks)

(c) State any FIVE applications of alkenes (5mks)