



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN FOODS NUTRITION AND DIETETICS

FND 018: INTRODUCTION TO ORGANIC CHEMISTRY

DATE: Wednesday 28th March 2012 TIME: 2.00p.m – 4.00p.m

INSTRUCTIONS

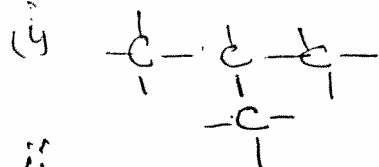
ANSWER ALL QUESTIONS

1. Name the following organic compounds by the IUPAC system. [12marks]
See diagrams (i) to (iv) attached.
2. Name and draw **four** structural formula of the **isomers** of the following hydrocarbon molecule $C_4H_{10}O$ [8marks]
3. Write the structural formula of the main products of the following reactions. [12marks]
 - i) Hydration of an alkene
 - ii) Hydrogenation of an alkene
 - iii) Nitration of benzene
 - iv) Dehydrogenation of a primary alcohol
 - v) Oxidation of an aldehyde using Fehlings solution
 - vi) Halogenation of a carboxylic acid
4. Explain the general type of reactions that benzene undergoes and give two reasons. [3marks]

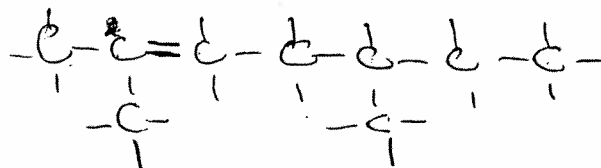
5. Write the general formula of an alcohol. Explain the three classes of alcohols and give an example of each. (Draw the structures.) [10marks]
6. Compare the boiling point of carbonyl compounds, alcohols with those of alkanes. [4marks]
7. Using an example of each distinguish between aldose and ketose sugars. [5marks]
8. Using ionic structures explain the ionization of an amino acid. [6marks]
9. Draw a peptide bond and explain its formation. [4marks]
10. Write the general formula of fatty acid and explain the process of rancidity of lipids. [6marks]

Q1.

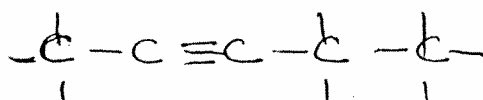
Ans 1 Question



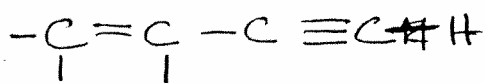
(ii)



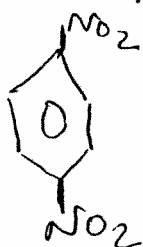
(iii)



(iv)



(v)



(vi)

