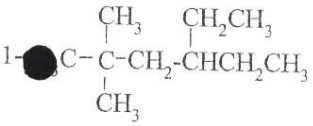
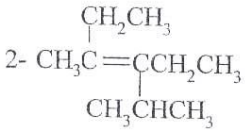
Academic year: 1st Year
Programme: Natural Science
Date: 12/01 /2012
Total assessment mark: 55

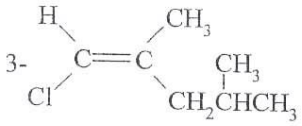
جامعة الفيوم
Fayoum University
كليه العلوم

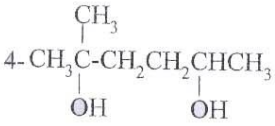
Department: Chemistry
Subject Title & code: Chem. 1
Time allowed: 3 hour
No. of pages: (2)

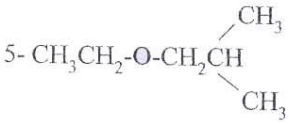
Q1 **A) Redraw the following structures using bond-line formula and predict a systematic name for each one:- (12 points)**

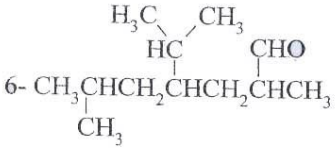
1- 

2- 

3- 

4- 

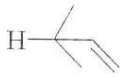
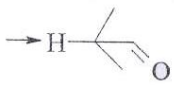
5- 

6- 

B) Write out the structures of isomers of $C_4H_{10}O$ that are alcohols, name them.

- Identify them as being primary, secondary or tertiary.
- Arrange them in relative reactivity order towards HBr

Q2 **Answer the following questions (DO NOT write too much) (12 points):-**

1- *Indicate the most acidic proton* →  

2- The C=C double bond does not exhibit free rotation (why?) and what consequence of the absence of free rotation?

3- Give one addition reaction to alkenes occurs specifically in an anti-fashion.

4-What is the reagent that must be used with HBr to convert 1-hexene to 1-bromohexane?

5- Mention three chemical reagents that can convert 1-butanol to 1-chlorobutane.

6- Acetone reacts with hydrazine (N_2H_4), either in absence or presence of KOH. What is the product formed in each case and what is the type of reactions occurring.

7- Give the structure of the alkane with M.F. C_5H_{12} that on free radical chlorination gives a single monochloride.

8- Alkenes could be converted to alcohols, mention (ONLY) three reagents that can perform this job.