

COURSE CODE (CREDITS):18B11BT314 (03)

MAX. MARKS: 15

COURSE NAME: GENERAL CHEMISTRY

COURSE INSTRUCTORS: DR.GOPAL SINGH BISHT

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

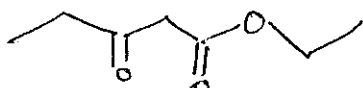
(b) Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions, wherever required for solving problems

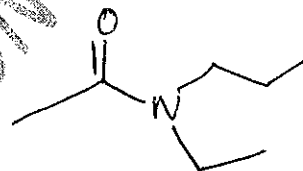
Q1. Answer the following questions. [5][CO1]

a) Give IUPAC names of following compounds. [1.5]

a)

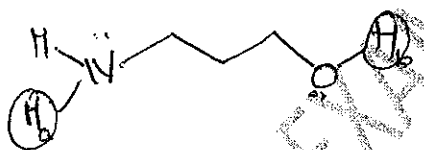


b)

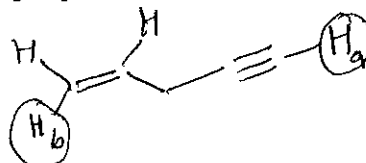


b) Which encircled hydrogen is more acidic any why? [1.5]

a)



b)



c) 300 ml of an aq NaCl solution contain 0.009 g of NaCl. Calculate the concentration of NaCl in PPM. [1]

d) Explain the difference between constitutional isomer and stereoisomer. [1]

Q2. Describe the preparation of 250 ml of 3.0 M HCl from a concentrated solution that have specific gravity 1.17 and is 36% (W/W) HCl. [2.5] [CO 1]

Q3. Explain optically activity and how it is used to determine the stereochemistry of a compound. Give your inference, if no optical rotation is observed when you place your sample in polarimeter. [2.5] [CO11]

Q4. pK_a is that pH at which 50% of acid remains in ionized form. Explain. [2][CO1]

Q5. Explain conformational analysis and potential energy profile of n-butane. Identify the most stable and least stable conformation of n-butane. [3][CO11]