



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF
BACHELOR OF SCIENCE (COMMUNITY HEALTH AND DEVELOPMENT)
(KISUMU LEARNING CENTRE)

COURSE CODE: SCH 3121:

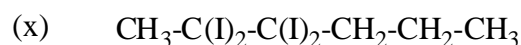
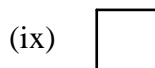
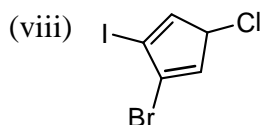
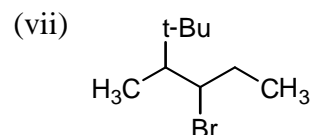
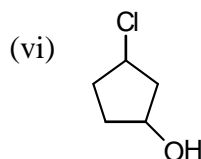
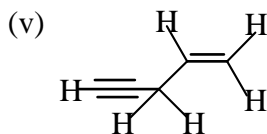
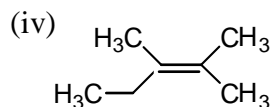
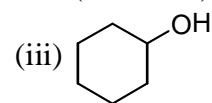
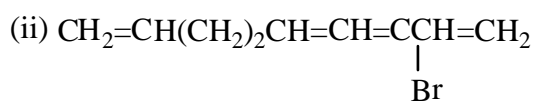
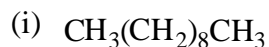
COURSE TITLE: BASIC ORGANIC CHEMISTRY

- 1. ANSWER ALL QUESTIONS IN SECTION A AND ANY TWO QUESTIONS FROM SECTION B**
- 2. SECTION A: ANSWER ALL QUESTIONS**

QUESTION 1

a) Give the IUPAC names of the following compounds;

(20 marks)



b) Draw the structures of the following compounds;

(10 marks)

- Prop-2-enol
- 3,4-dibromo-3,4-dichlorohept-1-yne
- Nonane
- Octanol
- Cyclohexane

SECTION B (40 MMARKS):

**ANSWER ANY TWO QUESTIONS FROM THIS SECTION-
EACH QUESTION CARRIES 20 MARKS**

QUESTION 2

a) Give a brief explanation to the following observations:

(15 marks)

- Boiling points of alkanes increase with increase in carbon number.
- Branched alkylhalides have lower boiling points compared to the corresponding straight-line derivatives.
- Lower alcohols are miscible with water.
- C-H-C bond angle is 109.5° in alkanes
- C-H bond lengths in alkanes are equal.

b) Define the following terms;

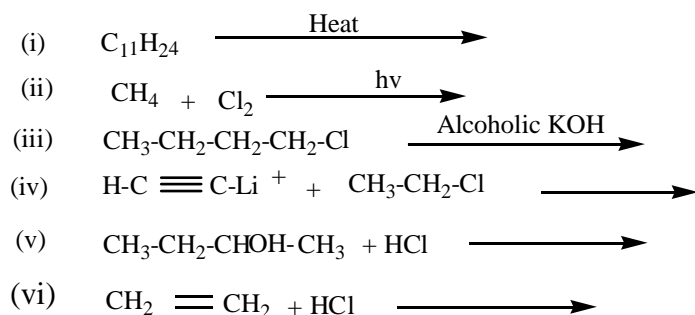
(5 marks)

- Catenation
- Homologous series
- Functional group
- Cracking

(v) Zwitter ion

QUESTION 3

a) Give the products of the following reactions; (12 marks)

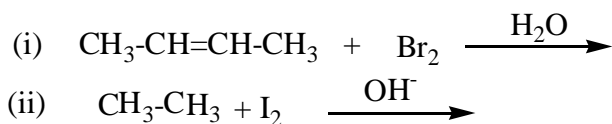


b) Carbon is said to be a very unique element. Discuss this statement. (8 marks)

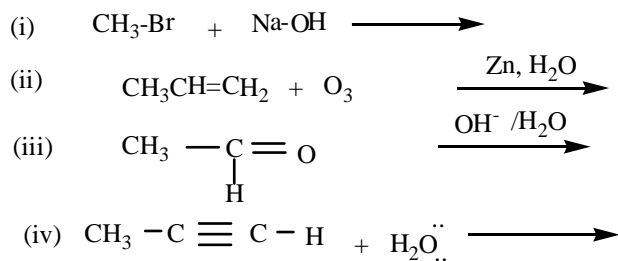
QUESTION 4

a) Discuss the structure and bonding in methane (6 marks)

b) Give the mechanism for the following reactions and name the major products; (6 marks)

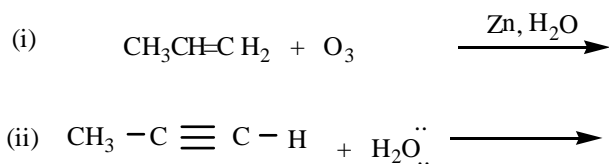


(c) Complete the following reactions; (8 marks)



QUESTION 5

a) Give the mechanism for the reactions below; (10 marks)



b) Briefly discuss the significance of studying Organic Chemistry. (5 marks)

