

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
PUBLIC & COMMUNITY HEALTH
1st YEAR 1st SEMESTER 2016/2017
KISUMU LEARNING CENTRE**

COURSE CODE: SCH 3121

COURSE TITLE: ORGANIC CHEMISTRY

EXAM VENUE:

STREAM:

DATE:

EXAM SESSION

TIME: 2 HOURS

Instructions:

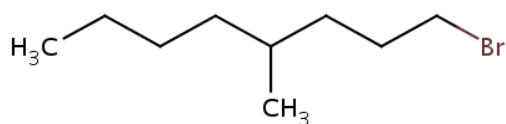
- 1. Answer all questions in Section A and any other 2 questions in Section B**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A

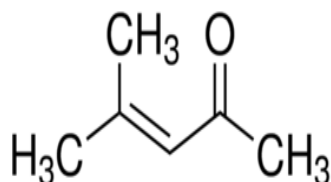
ANSWER ALL THE QUESTIONS (30MKS)

1. Name the following molecules (4 mks)

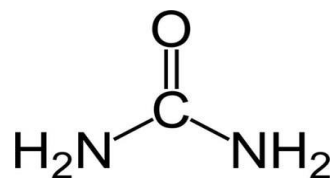
a)



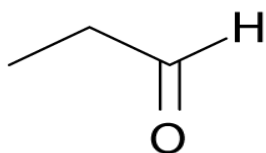
b)



c)



d)



2. Draw the structure of the following molecules (6 mks)

a) 1-bromo-4-methyloctane

b) Ethylphenylether

c) 2-methyl-2-butanol

- d) 4-ethyl-1-methylcyclohexene
- e) 2-bromo-1,1-dimethylcyclohexane
- f) 2-methylbutanal
- 3. State two uses of esters (2 mks)
- 4. Ethanol is soluble in water while diethylether is not. Explain (Support your answer using structures) (3 mks)
- 5. Explain why the non-polar side chains of amino acids are unreactive (2 mks)
- 6. Name three significance of nucleic acids (3 mks)
- 7. State four differences between carboxylic acids and alcohols (4 mks)
- 8. Describe the formation of a peptide bond in amino acids (4 mks)
- 9. State two properties of a homologous series (2 mks)

SECTION B

ANSWER ANY TWO (2) QUESTIONS FROM THIS SECTION (20 MKS EACH)

- 1. a) Describe the chemistry of the bacterial cell wall (15mks)
b) Briefly discuss on micelles (5 mks)
- 2. a) Discuss on the saponification process (10 mks)
b) Give the mechanism of reaction between hydrogen bromide and diethylether (5 mks)
c) Briefly describe sp³ hybridization in hydrocarbons (5 mks)
- 3. a) Discuss on the levels of the protein structure (16 mks)
b) With the aid of structures, briefly show how ethylpropanoate is formed (4 mks)
- 4. a) Discuss on the steps involved in protein synthesis (10mks)
b) Discuss on the components of nucleotide (10 mks)