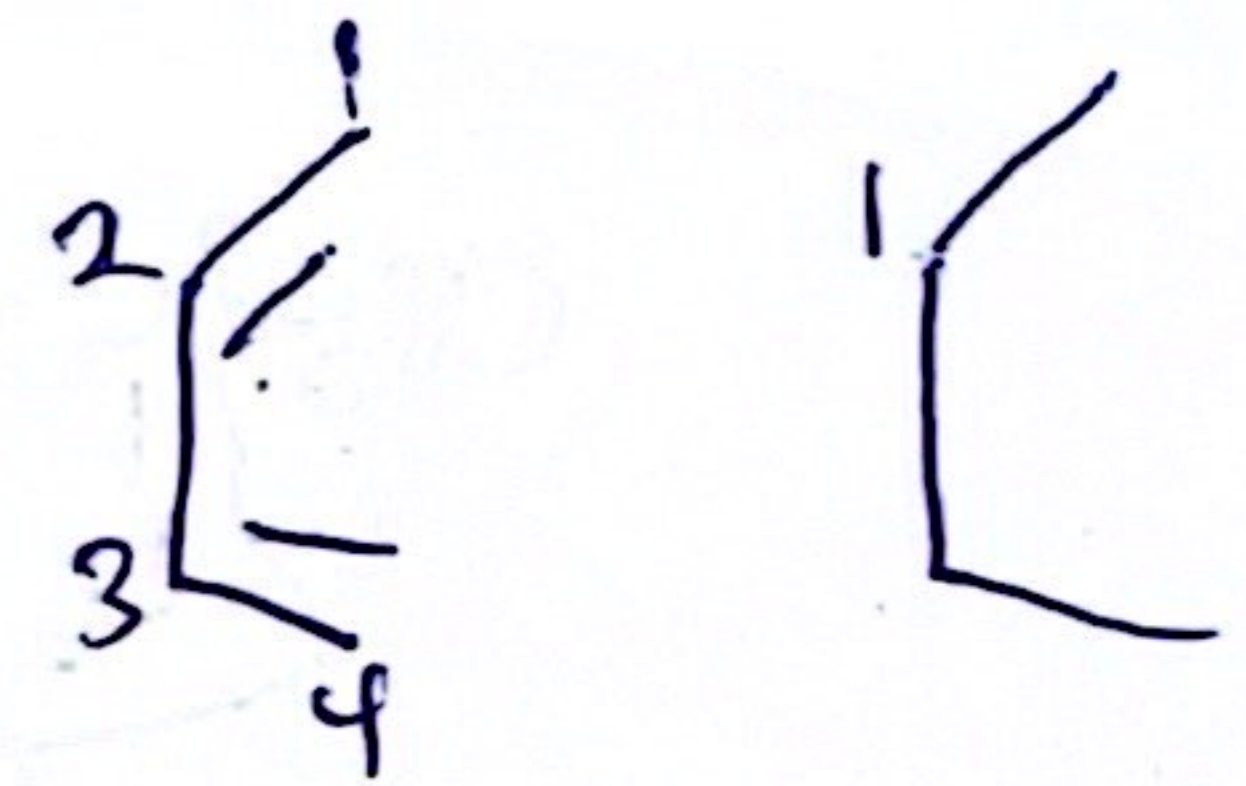


OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE

B.Sc. Degree (Industrial Chemistry) Test

Harmattan Semester 2019/2020 Session

ICH 309: Nutritional Chemistry



May, 2021

Time Allowed: 1Hr

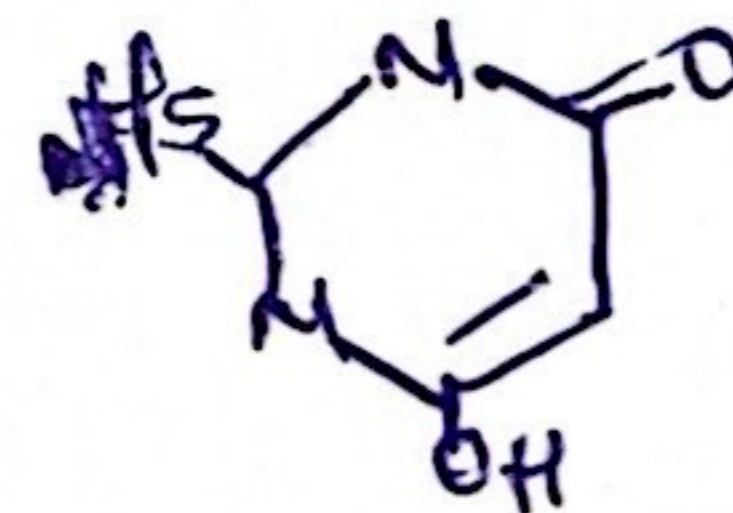
Instruction: Answer all questions, use separate answer booklet for each section

Section A

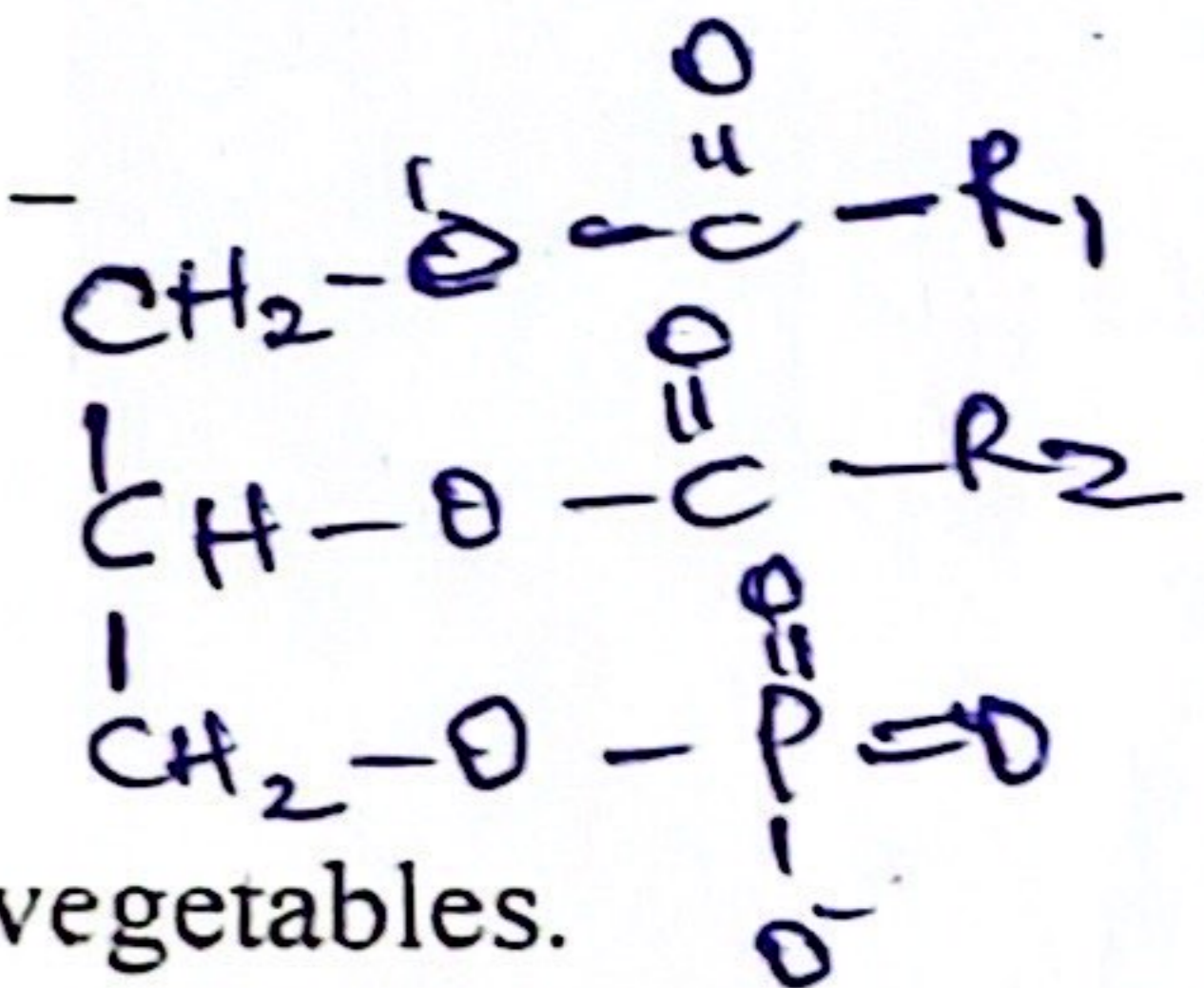
- 1a. A sample of vegetable oil was analyzed and found to contain 40 % oleic acid and 60 % of conjugated C18:2 $\Delta^{9,11}$ acid. When this oil was thermally abused under low oxygen tension, the analysis of the oil revealed it to contain tetra substituted cyclohexene compound, account for the formation of the compound.
- b. An advanced stage of auto-oxidation of vegetable oil revealed the presence of Malonaldehyde using TBA – method, assuming that the compound that decomposed to form the Malonaldehyde is $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}-\text{CHO}$, account for the formation of this TBA reactive compound.
- c. Write the general structure of phosphatidic acid (PA: 1,2 – diacyl – Sn – glycerol – 3 – phosphate).

Section B

botulinium



CH₂ –
clostridium



- 2a. Discuss the chemistry of the action of enzymes that leads to deterioration of fruits and vegetables. Suggest four ways by which this type of food deterioration can be prevented.
- b. Write short notes on (i) food fortification; and (ii) food supplementation
- c. Write short notes four traditional method of food preservation. Mention the disadvantages of two of the methods discussed.

BCP FRSC