

OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE
B.Sc. Degree (Industrial Chemistry) Test
Harmatan Semester 2021/2022 Session
ICH 309: Nutritional Chemistry

December, 2022

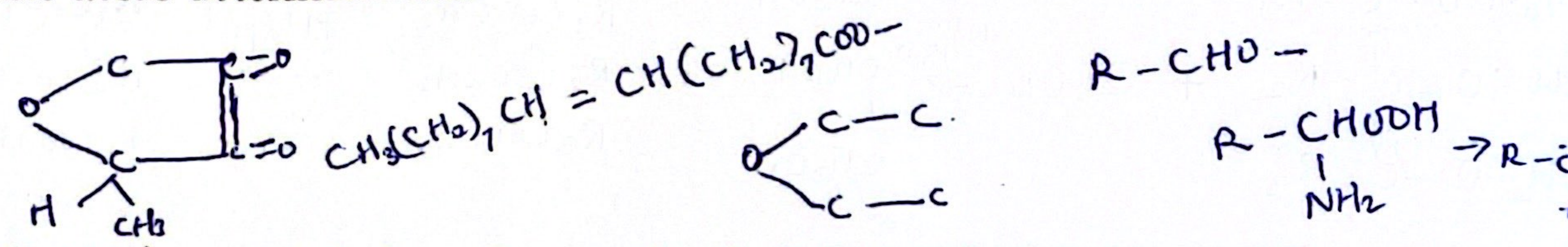
Time Allowed: 1 Hr

Answer each section in a separate answer sheet

SECTION A

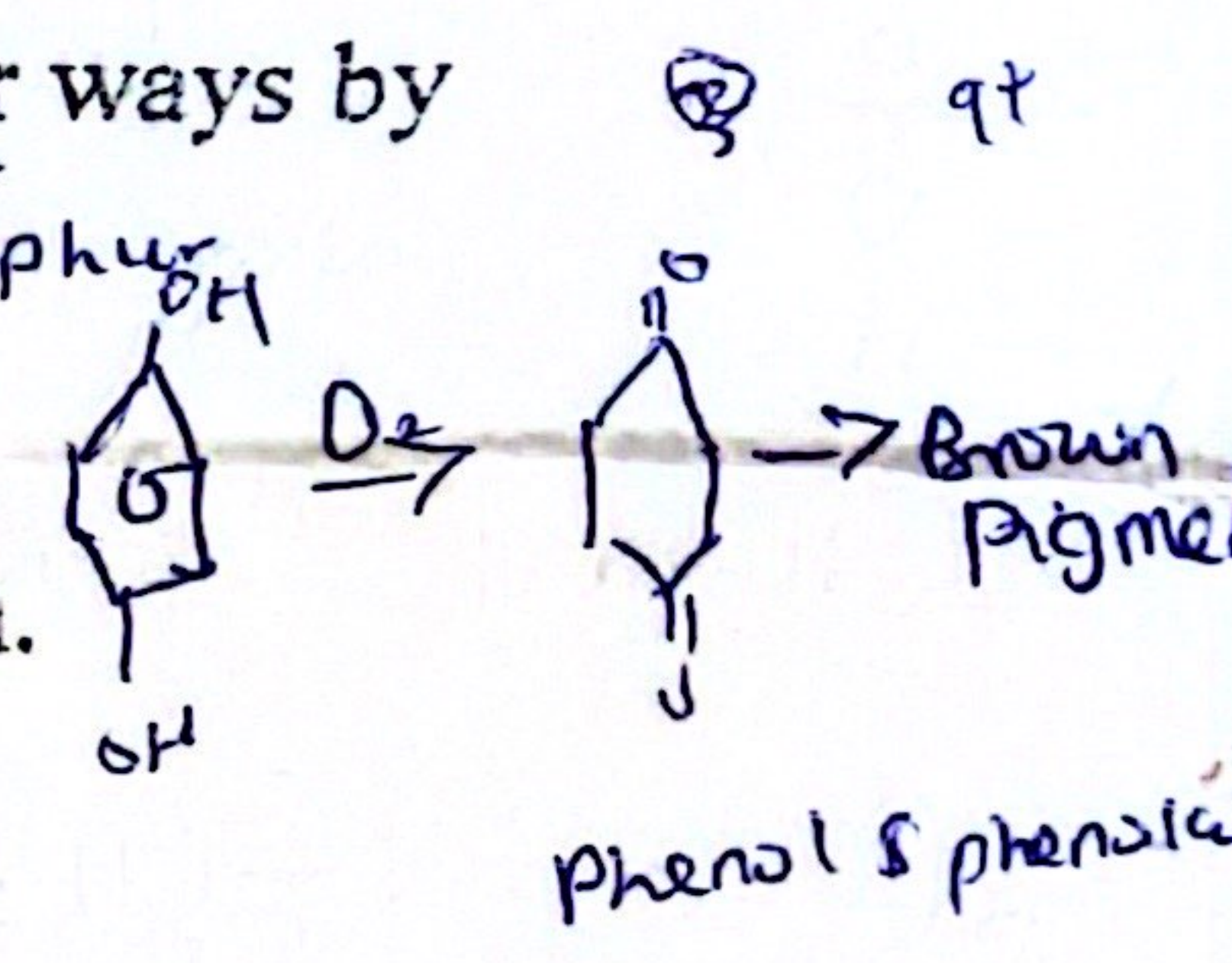
- 1a. Using Sn-system, write down the structure of triacylglycerol represented by Sn-StOM
- b. List all the factors that affect the rate of lipid oxidation in foods.
- c. Define pectins based on their structural fixtures and draw a structure of a typical pectin.
- d. (A) List all the water - soluble vitamins that you know. (B) Which of the vitamin(s) is or are responsible for the following functions and draw the structures of the vitamins that you have chosen? (i) Responsible for the formation of collagen, (ii) prevents berberi and (iii) prevents cheilosis. *Riboflavin* A B
- e. With the aid of chemical equations only, explain the Chemistry of the reaction of Ninhydrin used in amino acids determination.

Total mark is 15



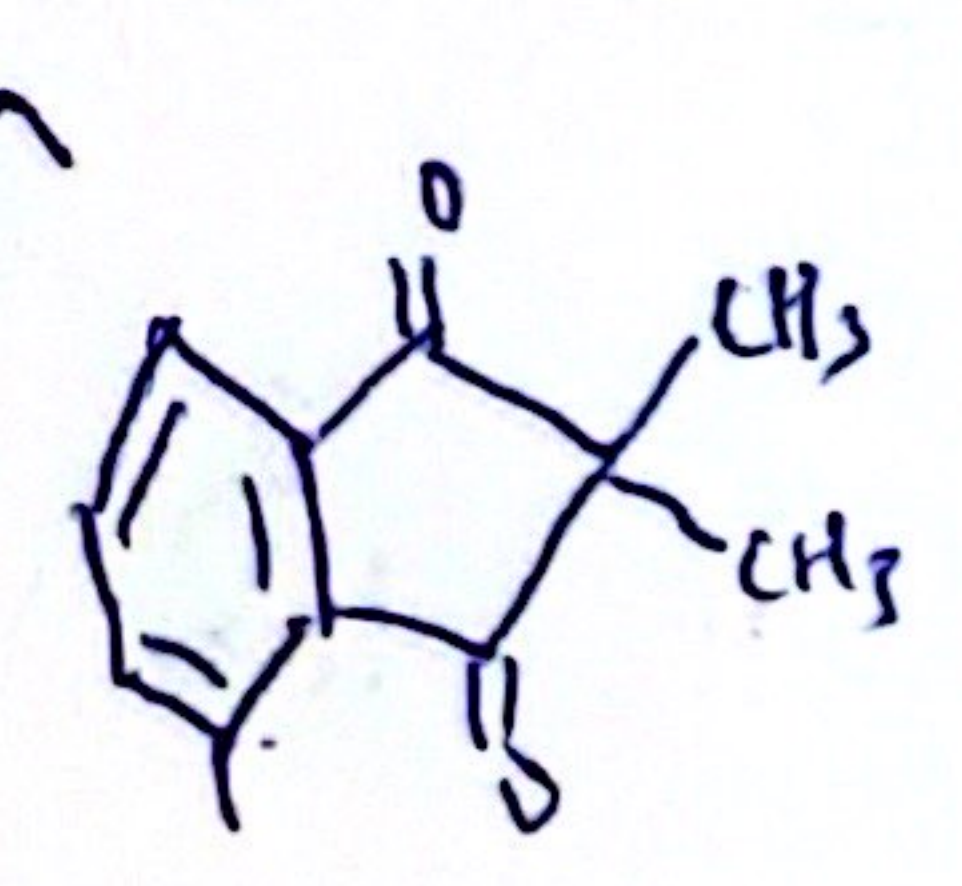
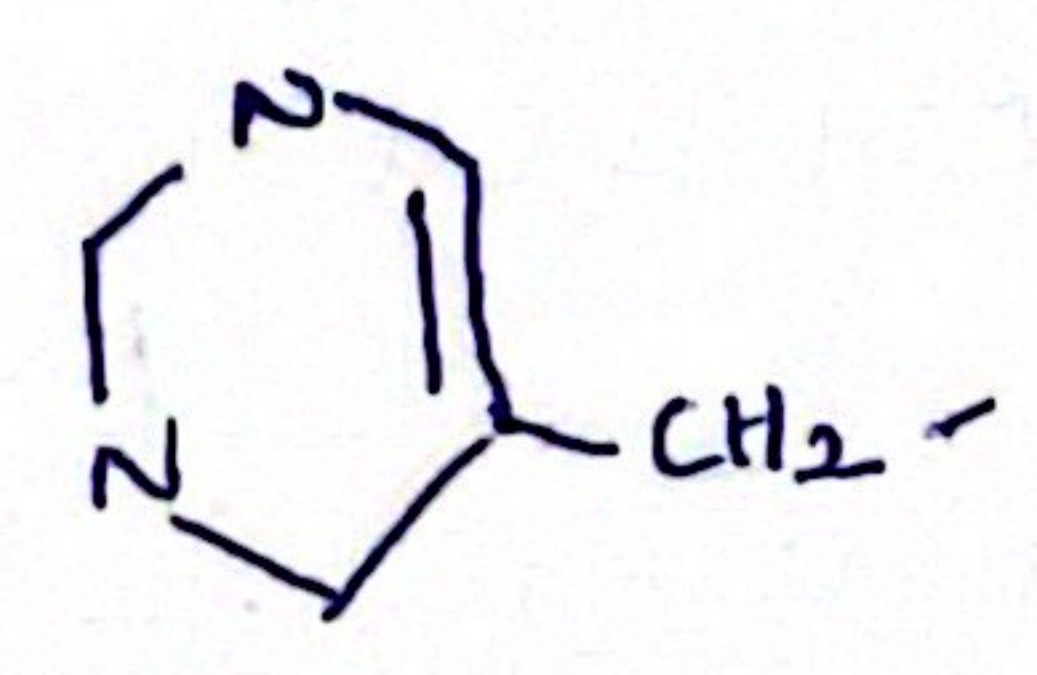
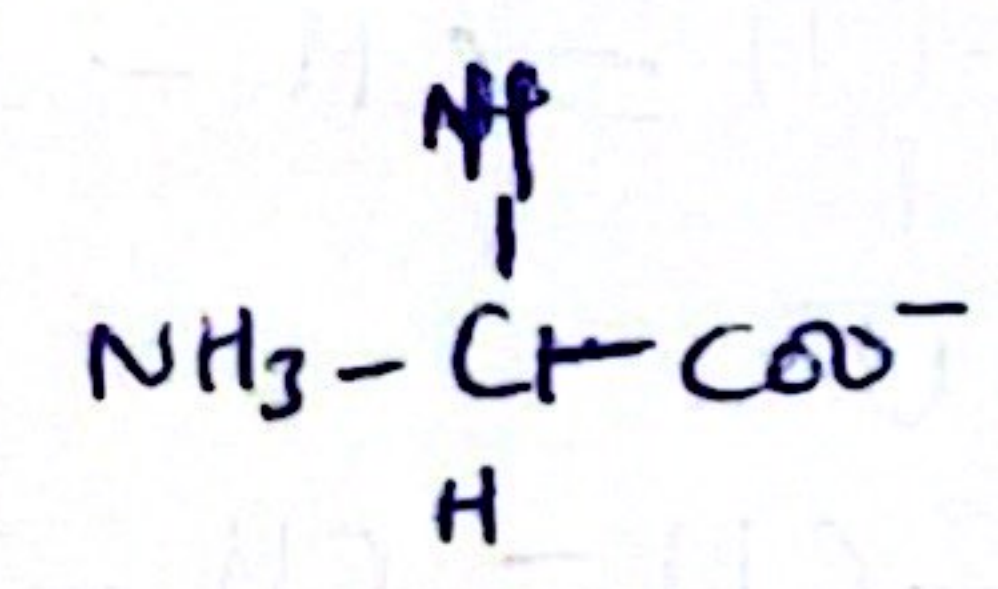
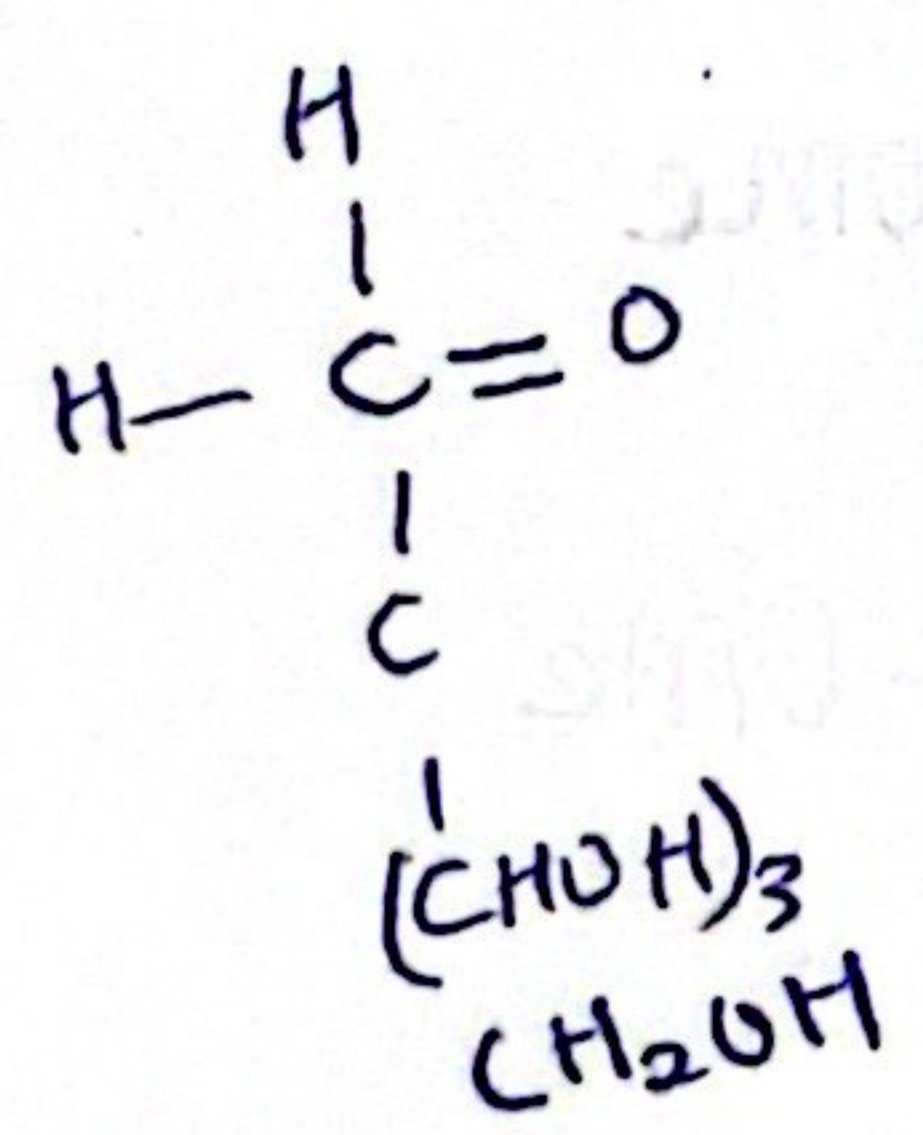
SECTION B

- 2 (a) With the aid of chemical equation, explain how the reaction between reducing sugars and amino acids. List all the possible effects of this reaction on the nutritional value of any heat-treated carbohydrate food.
- (b) With the aid of chemical equation (s), explain enzymatic browning. State four ways by which enzymatic browning can be prevented in fruits and vegetables. *Adding sulphur*
- (c) Discuss four household methods of food preservation. *Adding sulphur*
- (d) Define the following terms:
(i) food fortification (ii) food supplementation and (iii) food contamination.



15 marks

ADEK
Isoleucine
leucine
meth



8-hydroperoxide → decanal, methyl-8-oxooctanoate

1-undecanol

AMIDE

FOLA

FOLA

FOLA

FOLA

SAVIOUR

DELIVERER

20 150