



CRAWFORD UNIVERSITY
COLLEGE OF NATURAL AND APPLIED SCIENCE
DEPARTMENT OF INDUSTRIAL CHEMISTRY
HARMATTAN EXAMINATION 2023/2024

COURSE CODE: ICH 335

COURSE TITLE: ELEMENT OF FOOD SCIENCE

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS.

TIME ALLOWED: 2HRS

DATE: FEBRUARY, 2024

UNIT: 2

1. A) MENTION three importance of moisture analysis and the different methods that can be used.
B) You have the following gravimetric results: weight of dried pan and glass disc is 2.376 g, weight of pan and liquid sample is 5.6 g, and weight of the pan and dried sample is 3.1 g. What was the moisture content of the sample and what is the percent solids? ·
C) What are the potential advantages of using a vacuum oven rather than a forced draft oven for moisture content determination? (15 Marks)
2. A) explain the three different steps to be considered when analyzing a food sample
B) explain the two properties that depicts the nature of food.
C) The following data were obtained on a sample of hamburger: sample wt, 2.034 g; wt after drying, 1.0781 g; wt after ether extraction, 0.4679 g; and wt of ash, 0.0233 g. What is the percentage ash on a wet weight basis (15 Marks)
3. A) Itemize the procedures that may be required to prepare a food sample for accurate fat determination by a solvent extraction method (e.g., Soxhlet method). Explain why each of these procedures may be necessary.
B) Give two classification of vitamins and state their examples. give structures of any two vitamins known to you.
C) What are the general classification of lipids? (15 Marks)
4. A) Mention four importance of protein analysis.
B) The Kjeldahl method of protein analysis consists of three major steps. List these steps in the order they are done and describe in words what occurs in each step.
C) Describe the Biuret method and Lowry method of protein analysis (15 Marks)
5. A) What is food adulterants? list for common foods and it's adulterants.
B) what is food microbiology? list four common microorganisms found in food
C) Mention two importance of vitamin analysis, list the various units of expressing vitamins (15 Marks)
6. A) list the principle of food preservation and explain how it is being carried out
B) Explain three different methods of food preservation
C) Enumerate three different causes of food poisoning (15 Marks)