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**University Examinations 2014/2015**

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

**AFT 3475: FATS AND OILS TECHNOLOGY**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Explain why it is important to remove phospholipids during fats and oils processing

(5 Marks)

1. State five factors influencing choice of processing equipment and techniques to be applied in extraction and refining of edible fats and oils (5 Marks)
2. Explain the purpose of cooking ground or flaked seeds before lipids recovery (6 Marks)
3. Explain the information derived from the following fats and oils quality parameters
4. Saponification value (4 Marks)
5. Iodine value (4 Marks)
6. Distinguish wet rendering from dry rendering in extraction of fat from animal tissue

(4 Marks)

1. Explain the purpose of producing winterized oil? (2 Marks)

**QUESTION TWO (20 MARKS)**

1. Discuss three strategies that can be adopted to lower formation of trans-fats during hydrogenations of fats and oils. (9 Marks)
2. Discuss the pros and cons of enzymatic interesterification (6 Marks)
3. Discuss why is deodorization the last major step in edible oils processing (5 Marks)

**QUESTION THREE (20 MARKS)**

Discuss the main techniques employed to protect finished fats and oils from oxidative deterioration (20 Marks)

**QUESTION FOUR (20 MARKS)**

1. Discuss fractionation as a mode of fats and oils modification (10 Marks)
2. Describe catalyst poisoning during hydrogenation stage (10 Marks)