



FACULTY OF SCIENCE

DEPARTMENT OF BIOTECHNOLOGY AND FOOD TECHNOLOGY
DIPLOMA IN FOOD TECHNOLOGY

MODULE FTN1SB1
INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY
CAMPUS DFC

END YEAR EXAMINATION

DATE 11/11/2019

SESSION: 08:00 – 11:00

ASSESSOR(S)

DR E KAYITESI

INTERNAL MODERATOR

DR BC DLAMINI

DURATION 3 HOURS

MARKS 142
100% 140

NUMBER OF PAGES: 3 PAGES

INSTRUCTIONS TO CANDIDATES:

1. Answer all the questions in the examination answer book provided.
2. Questions may be answered in any order, but subsections of questions must be answered together.
3. Marks will be deducted for untidy and illegible handwriting.
4. Good luck!

QUESTION 1:

- 1.1 Explain HACCP and why it is implemented in the food industry (10)
- 1.2 Write short notes on the different types of food safety hazards. (9)
- 1.3 Write the following acronyms in full and explain their application in the food industry:
- 1.3.1 GMP (6)
- 1.3.2 PRP (5)
- 1.3.3 SOP (5)
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- [35]**

QUESTION 2:

- 2.1 Explain the following key words / terms or statements in your own words:
- 2.1.1 Starch Gelatinization. (4)
- 2.1.2 Crystallization. (4)
- 2.1.3 Brix °B. (4)
- 2.1.4 Latent heat. (4)
- 2.1.5 Sensible heat (4)
- 2.2 What kind of jobs are available for food scientists and Technologists? (5)
- 2.3 State the main sub-sectors of the South African food processing industry. (10)
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- [35]**

QUESTION 3

- 3.1 Define food preservation and discuss the importance of preserving food. (7)
- 3.2 Differentiate between Psychrophilic, Mesophilic and Thermophilic bacteria. (6)
- 3.3 Describe how the following bacterial food pathogens affect human health:
- 3.3.1 *E. coli* O157:H7. (5)
- 3.3.2 *Salmonella*. (5)
- 3.3.3 *Listeria monocytogenes*. (5)
- 3.3.4 *Clostridium botulinum*. (5)
- 3.4 Illustrate the Illness Mechanisms of food pathogens. (4)

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QUESTION 4

- 4.1 Explain the reasons for using blanching as a pre-treatment prior to further processing such as freezing, sterilisation and dehydration. (4)
- 4.2 State the four methods commonly used for blanching. (4)
- 4.3 Briefly discuss the importance of the following steps in the canning of food:
- 4.3.1 Addition of syrup/brine. (5)
- 4.3.2 Exhausting the cans. (5)
- 4.3.3 Heat processing. (5)
- 4.4 During processing of food heat is transferred by conduction, convection or radiation. In your own words explain these three modes of heat transfer. (12)

[35]

Total= 142
100% = 140