



FACULTY OF SCIENCE

DEPARTMENT OF FOOD TECHNOLOGY NATIONAL DIPLOMA

**MODULE FOOD PROCESS ENGINEERING 2
FTN3BE2**

CAMPUS DFC

EXAM December 2015

DATE: December 2015

SESSION 14:00

ASSESSOR

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INTERNAL MODERATOR

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DURATION 2 HOURS

MARKS 118

NUMBER OF PAGES: 3 PAGES

INSTRUCTIONS: ANSWER ALL THE QUESTIONS.

QUESTION 1

Consider the basic control structure of milk heat exchanger in Figure 1.

- 1.1** Name this control structure (2)
1.2 What is the objective of this control structure? (2)
1.3 How can the automatic control be achieved? (8)

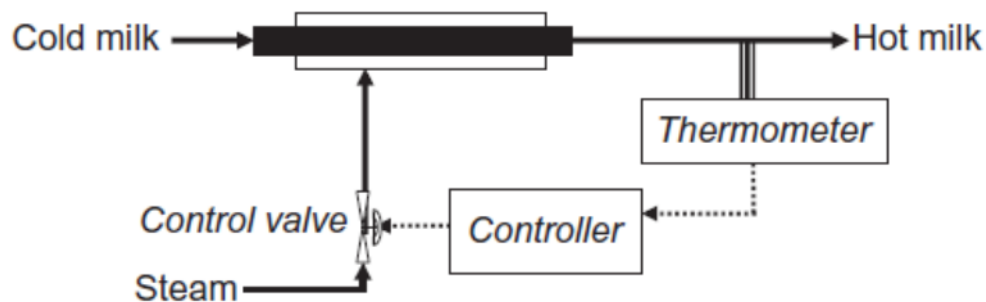


Figure 1: Control structure of milk heat exchanger.

[12]

QUESTION 2

Explain the factors affecting dilute phase conveying.

[12]

QUESTION 3

Explain briefly the HACCP principles

[21]

QUESTION 4

Explain the different types of wastes produce from food processing operations

[12]

QUESTION 5

Explain briefly the different aerobic processes in biological treatment of wastewater.

[12]

QUESTION 6

Give the advantages of computer graphics modelling compared with actual scale models

[12]

QUESTION 7

Explain the key environment issues related to packaging wastes.

[6]

QUESTION 8

Anaerobic treatments have been applied to both the sludges from aerobic treatment and to treat highly polluted waste streams from food plants. Discuss the stirred tank reactor in Figure 2.

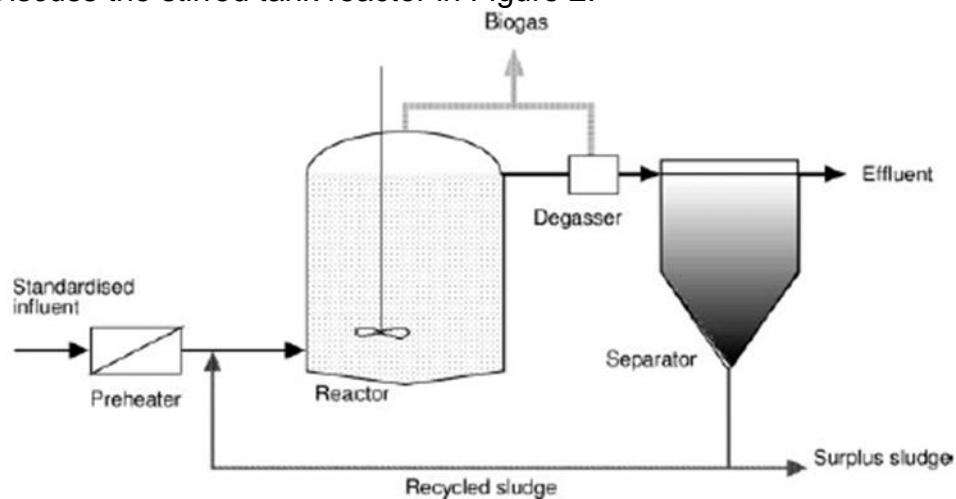


Figure 2: Stirred tank reactor

[15]

TOTAL 102