



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
Department of Environmental Health Science

DEGREE IN ENVIRONMENTAL HEALTH AND FOOD
SCIENCE

RE - SIT EXAMINATION PAPER 2021

TITLE OF PAPER	:	FOOD PROCESSING
COURSE CODE	:	EHS 427
DURATION	:	2 HOURS
MARKS	:	100
INSTRUCTIONS	:	READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
	:	ANSWER <u>ANY FOUR</u> QUESTIONS.
	:	EACH QUESTION <u>CARRIES 25</u> MARKS.
	:	WRITE NEATLY & CLEARLY
	:	
	:	BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR.

QUESTION ONE

- (a) Discuss how food processing improves storage stability. [5 Marks]
- (b) What is energy balance? [4 Marks]
- (c) Briefly outline what is boundary film (surface film)? [8 Marks]
- (d) Discuss the implications of streamline and turbulent flow. [8 Marks]

Total [25 marks]

QUESTION TWO

- (a) Illustrate the principle of a double effect evaporator. [5 Marks]
- (b) Write short notes on any four (4) concepts listed below.
 - (i) Wet cleaning,
 - (ii) Separation of physical contaminants,
 - (iii) Sorting,
 - (iv) Grading,
 - (v) Emulsifying agents.

[20 Marks]

Total [25 marks]

QUESTION THREE

- (a) Write short note on pasteurization. [5 marks]
- (b) Discuss broadly the concept of blanching. [20 Marks]

Total [25 Marks]

QUESTION FOUR

- (a) Use a Pearson Square to calculate the amounts of orange juice (10% sugar content) and sugar syrup (60% sugar content) needed to produce 50 kg fruit squash containing 20% sugar. [5 Marks]
- (b) How do you conduct dry cleaning and what are the advantages of dry cleaning? [10 Marks]
- (c) Briefly discuss the benefits of size reduction. [10 Marks]

Total [25 Marks]

QUESTION FIVE

- (a) Discuss the main differences between pasteurization and sterilization [15 marks]
- (b) What are factors influencing nature of extruded products? [10 Marks]

Total [25 marks]