Student ID No. ..... Date.....

FIJI NATIONAL UNIVERSITY
College of Agriculture, Fisheries & Forestry
School of Agriculture and Forestry
Department of Crop Science
Bachelor of Science in Agriculture
Final Examination
Semester 2
HOR732- Preservation of Fruits and Vegetables
Writing Time: 3 hours
Reading Time: extra 10 minutes allowed at the beginning of the exam
Total Marks: 100

INSTRUCTIONS:

1. This paper consists of four pages.
2. Please check to see that all your paper is complete.
3. Answer all questions in the Answer Booklet only.
4. No written or printed material and mobile phones are allowed in the examination hall.
5. Marks allocated for each section appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Three Section

Section A: Multiple Choice	**(10 Marks)**
Section B: Short answer	**(30 Marks)**
Section C: Essay	**(60 Marks)**

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SECTION A: Multiple Choices. Select the correct answer. (10 marks).

1. Foods that can be preserved for long time under proper storage conditions are;
   A. Perishable
   B. Semi-perishable
   C. Non- perishable

2. Preventing the entry of micro-organisms by washing and wiping fruits and vegetables is called;
   A. Asepsis
   B. Thermal
   C. Dehydration

3. Preserving food by freezing;
   A. Reduces the population of micro-organisms present in food
   B. Kills the presence of micro-organisms in the food
   C. Limits the growth of micro-organisms in food due to alterations of environmental conditions.

4. The principles dictating at which stage of maturity a fruit or vegetable should be harvested are crucial to its subsequent storage and marketable life and quality is called;
   A. Senescence
   B. Maturity indices
   C. Ripening

5. _____ maturity is the stage at which plant or plant part continues ontogeny.
   A. Harvest
   B. Horticultural
   C. Physiological

6. A container which is absolutely impermeable to gases and vapours throughout its entirety is called;
   A. Hermetic condition
   B. Non-hermetic condition
   C. Controlled atmospheric condition

7. The recommended packaging conditions for banana under Modified Atmosphere Packaging is;
   A. 15°C, 5% O_2, 5%CO_2
   B. 15°C, 21% O_2, 5%CO_2
   C. 15°C, 5% O_2, 10% CO_2

8. _____ are heterogeneous colloid mixtures of small molecule droplets of one component suspended immiscible to it.
   A. Emulsions
   B. Enzymes
   C. Acid

9. The main enzymes responsible for browning in fruits and vegetables are;
   A. Polyphenol oxidase and peroxidase
   B. Peroxidase and lactic acid
   C. Amylase and lactic acid

10. Lactoperoxidase, saponins and flavonoids are examples of;
   A. Natural food preservatives
   B. Artificial food preservatives
   C. Food acids

SECTION B: Short Answers (30 marks)

Answer all the questions. Each question is worth of 5 marks.

1. Define the following terms;
   i. Post-harvest loss
   ii. Maturity indices
   iii. Irradiation
   iv. Climacteric fruits
   v. Non-climacteric fruits
2. Evaluate and demonstrate the respiration rate of fruits and vegetables and its impact on shelf-life.
3. Analyze the various roles of food acids.
4. Evaluate the classification of food colourants and also provide examples.
5. Analyze the principles of preservation.
6. Provide the role of enzymes in the food industry.

Section C- Long Answers (60marks)
There are eight questions in this section. Answer ONLY SIX questions.
Each question is worth of 10 marks.

1. Evaluate food preservation techniques which are very common and widely practiced in developing countries.
2. Analyze post-harvest factors affecting the quality and shelf-life of horticultural crops.
3. Evaluate the causes of enzymatic browning in fruits and vegetables and provide methods to control enzymatic browning.
4. Analyze the various methods of packaging fruits and vegetables and also discuss its functions.
5. Canning involves heating food in sealed containers for a specific time at specific temperature to remove microbial pathogens, micro-organisms and enzymes that deteriorate food during storage. Provide the important steps involved in canning of fruits and vegetables.
6. Analyze the importance of post-harvest technology and causes of postharvest losses.
7. Evaluate the various traditional food preservation methods.
8. Potato is an important vegetable crop in the world and it is widely grown and consumed in temperate as well as tropical countries. Analyse and discuss important postharvest storage conditions in maintaining quality of potato for consumption.

THE END !!!