

**UNIVERSITY OF RUHUNA**  
**BACHELOR OF SCIENCE (GENERAL) DEGREE LEVEL III (SEMESTER I)**  
**EXAMINATION- JULY 2016**

Subject : Botany  
Course Unit: Food Technology - BOT 3172  
Time : One and half hours  
Index No. : .....

Question No.	Marks
Q <sub>1</sub>	
Q <sub>2</sub>	
Q <sub>3</sub>	
Q <sub>4</sub>	
Total	

**Answer THREE questions ONLY including question 1**

1)

a) Mention the five roles of a food technologist. (10 Marks)

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b) Explain briefly the mechanism of browning in cut fruits. (10 Marks)

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c) What is the Millard reaction occurred in foods? (10 Marks)

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d) How do you avoid browning effect of cut fruits? (10 Marks)

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e) Give two commonly used anti-browning agents. (05 Marks)

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f) What do you mean by recognition threshold concentration of a food? (05 Marks)

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g) List the steps you would follow to find the recognition threshold concentration for a given series of sucrose solution. (10 Marks)

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h) A slide was prepared with a film/smear (area of  $2\text{cm}^2$ ) using  $1\ \mu\text{l}$  of  $10^{-1}$  solution of a food contain dry egg. The number of microorganisms in the film under the high power of the microscope was observed in three field views. The following table shows the observed number of microorganisms in three field views.

Field View	No. Of microorganisms observed
1	64
2	72
3	58

Calculate the number of microorganisms present in 1 ml of the given solution. (15 Marks)  
(Diameter of the high power = 0.35mm)

- i) You are provided two protein solutions: Tyrosine, cysteine and a starch solution. If necessary reagents are available with you, describe how do you identify above solutions. (15 Marks)

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- j) If you are given some biscuits, what are the test you would follow to identify the major nutritional components of them. (10 marks)

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- 2) i) What do you mean by food spoilage? (10 Marks)
- ii) Describe the causes of food spoilage. (20 Marks)
- iii) a) Explain how food spoilage can be prevented? (10 Marks)
- b) What are measures do you take during shopping and storage to minimize the spoilage of vegetable and fruit? (10 Marks)
- iv) List the major steps you follow to enumerate the microorganisms present in a spoiled packet of lunch. (20 Marks)
- v) Discuss the use of plastic crates for transporting fruits and vegetables in the aim of minimizing the spoilage. (30 Marks)
- 3) i) Explain briefly the necessity of food preservation. (20 Marks)
- ii) List the different methods of food preservation. (15 Marks)
- iii) Compare merits and demerits of sun drying of foods? (20 Marks)
- iv) Describe briefly quick freezing methods of foods. (20 Marks)
- v) List the major steps in canning of foods. (10 Marks)
- vi) What are the risks of using canned foods? (15 Marks)
- 4) Write short notes on the following; (100 Marks)
- i. Necessity of producing genetically modified foods.
- ii. Importance of packaging and labeling of foods.
- iii. Post-harvest losses of vegetable and fruits in Sri Lanka.