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B.E. / B.Tech. (Full Time) ARREAR EXAMINATIONS, Apr / May 2019

AGRICULTURAL AND IRRIGATION ENGINEERING

Fourth Semester

AI 8401 Food Science and Nutrition

(Regulation 2012)

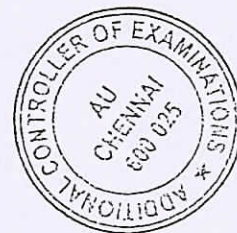
Answer ALL Questions

Max Marks: 100

Time: 3 hrs

Part – A (10 x 2 = 20 Marks)

- 1) Draw the USDA diet pyramid.
- 2) What are the various types of thermometers used in food industry?
- 3) Give scientific reasons for the following:-
 - a. An afebrile person loses weight.
 - b. Fruit when raw is sour and sweet when ripe.
- 4) What is ketosis?
- 5) What are the types of rancidity? Write a note.
- 6) Differentiate Essential and Non-essential amino acids.
- 7) List some of the extruded products with their brand names.
- 8) How does a juice and squash differ?
- 9) Fruit juices are available in tetra packs. Why?
- 10) Define packaging according to PII.



Part – B (5 x 16 = 80 Marks)
(Question No. 11 is compulsory)

- 11) a) i) Explain in detail how the total energy requirement of the body is calculated. (8)
ii) What are the characteristics of carbohydrates? How are the carbohydrates classified? (8)
Give examples.
- 12) a) i) Write short notes on pH and its application to food science. (4)
ii) Tabulate the physical and chemical adulteration in food and the diseases and health effects caused. (6)
iii) List the various categories of food with examples and their functions. (6)

(OR)

- b) i) Explain the various International Standards for food. (10)
ii) Discuss the concept of weights and measures applicable to food science. (6)

13) a) i) Tabulate the Recommended Dietary Allowance of important minerals for children, males and females. (10)

ii) Write short notes on weaning foods. (6)

(OR)

b) i) How are fats classified? (8)

ii) What are the general functions of minerals and list out the various forms in which they are present in the body? (8)

14) a) i) What are the types of candies? Explain the method of preparation. (8)

ii) List the tools required for a bakery and a jam industry. Discuss their use. (8)

(OR)

b) i) What are the steps involved in the development of extruded products? (8)

ii) Write short notes on baking. Explain the method of preparing bread. (8)

15) a) i) Discuss the rules and regulations for setting up a fruit processing industry. (8)

ii) What are the types of packaging? Tabulate the various natural plant materials used for the same along with their form and the food packed. (8)

(OR)

b) i) Explain the fermentation of carbohydrates, proteins and lipids. (8)

ii) State the reasons for taking beverages. Write short notes on tea and soup. (8)

