

ROLL No.....

NATIONAL COUNCIL FOR HOTEL MANAGEMENT
AND CATERING TECHNOLOGY, NOIDA
ACADEMIC YEAR 2014-2015

COURSE : 2nd Semester of 3-year B.Sc. in H&HA
SUBJECT : Principles of Food Science
TIME ALLOWED : 03 Hours MAX. MARKS: 100

(Marks allotted to each question are given in brackets)

- Q.1. (a) Define Food Science.
(b) Enumerate its importance for catering establishments. (3+7=10)

- Q.2. (a) Classify carbohydrates.
(b) Describe **any five** functions of carbohydrates in food preparation. (5+5=10)

OR

Explain the process of gelatinization with the help of an illustration and state the factors affecting it. (10)

- Q.3. (a) Describe **three** types of dispersions.
(b) Explain some colloids that can be formed during food preparation. (5+5=10)

OR

Define the role of emulsifying agents in food and explain the characteristics of emulsions. (10)

- Q.4. Illustrate the basic structure of proteins. State the properties of proteins that are useful in various food preparations. (5+5=10)

- Q.5. What is the importance of antioxidants in food? Explain **any two** types of spoilage conditions seen in fats and list some preventive measures. (3+7=10)

Q.6. How is the proximate analysis of food constituents conducted in the food industry?
(10)

OR

Define sensory assessment of food quality. Draw a standard format of a score card used for sensory evaluation of food.

(3+7=10)

Q.7. Why is the demand for food processing greatly increasing? Explain the types of processing methods by application of heat.

(3+7=10)

OR

Explain the science behind the detection of flavour by the five sensory organs of the body.

(10)

Q.8. List atleast **two** differences:

- (a) Winterisation and Homogenization
- (b) Microwave and Irradiation
- (c) CAP and MAP
- (d) Leavening and shortening agent
- (e) Natural and synthetic emulsifiers

(5x2=10)

Q.9. Answer in brief:

- | | |
|--------------------|----------------------|
| (a) Flavour of tea | (b) Fermentation |
| (c) Taste panel | (d) Refining of fats |
| (e) Syneresis | |

(5x2=10)

Q.10. Fill in the blanks:

- (a) _____ is the enzyme responsible for undesirable browning in food (phenol oxidase, amylase, papain).
- (b) Cream is an example of _____ (aerosol, emulsion, solid foam).
- (c) Masticometer is a device used to measure the _____ of a product (Chewiness, flow, colour).
- (d) A processing technique applying heat which kills only the disease causing micro-organism is _____ (sterilization, pasteurization, drying).
- (e) A flavour component in wine which contributes to the mouth feel and colour and breaks down during aging is _____ (nicotine, caffeine, tannin).

(5x2=10)
