V. M. SALGAOCAR INSTITUTE
*of*
INTERNATIONAL HOSPITALITY EDUCATION

**B.Sc. Culinary Arts**

Type: Semester End Assessment (SEA) Date: 18/11/2025

Batch and Semester: 2024-27 & Semester 3 Total Marks: 80 Time Duration: 2 Hours

Course Name: Nutrition and Food Science Course Code: CUL-211

Faculty: Ms. Alyce Rodrigues

This paper contains 02 pages in addition to the cover page.

Full Name of the Student: _____

Permanent Registration Number: _____ Class: _____

Marks Obtained: _____ Faculty Signature: _____ Invigilator Signature: _____

| Main Answer sheet | Number of Supplements | Total number of Answer sheets |
|---|---|---|
| 01 | | |

- Carefully read each question at the outset of the paper. All queries must be addressed to the faculty within the first 10 minutes of the examination.
- Students are expected to maintain complete silence in the examination hall and should not interact or communicate with their peers.
- Students will carry only their essential stationery like pens, pencils, ruler and simple calculators into the examination hall.
- Bags, eatables, drinks, etc. will not be allowed inside the hall with the exception of a bottle of water.
- Cell phones, electronic data banks, scientific calculators and smart/beeping watches are prohibited in the examination hall.
- Students will answer the examination with only blue/ black ball point pens unless informed differently by faculty. Avoid usage of green or red ink pens on the answer sheet.
- Dictionaries will not be allowed into examination hall unless informed differently by faculty.

Q.1. Answer the following questions **(8 x 2 Marks = 16 Marks)**

1. What are essential amino acids?
2. Explain the term broken emulsion.
3. What are phytonutrients? State one dietary source.
4. Explain lactose intolerance.
5. What is the Maillard reaction?
6. List two examples of retrogradation seen in food preparation.
7. What are the two negative effects of excessive fat consumption?
8. State two dietary sources of vitamin E.

Q.2. A. i) What is the recommended dietary allowance for protein consumption? **(3 Marks)**

Q.2. A. ii) What role does water play in the body? (3 points) **(3 Marks)**

**OR**

Q.2. A. iii) What is the role of fat in the body? **(3 Marks)**

Q.2. A. vi) What are antioxidants? State any two examples. **(3 Marks)**

Q.2. B. i) What are soluble and insoluble dietary fibre? Differentiate with 2 points. **(3 Marks)**

ii) What are the harmful effects of excessive consumption of proteins? **(3 Marks)**

Q.2. C. i) Explain the concept of water balance in the human body. **(4 Marks)**

Q.3. A. i) Suppose a food item contains 25g protein, 15g fat, and 150g carbohydrates. Calculate the total calories provided. (Show workings) **(3 Marks)**

ii) Sarah (7 years old) is showing symptoms of Rickets. Which mineral is she lacking and suggest dietary sources that could help her recover from this condition. **(3 Marks)**

**OR**

Q.3. A. iii) Rochelle is diagnosed with anemia. Which mineral is deficient? Suggest 2 food items in her diet. **(3 Marks)**

Q.3. A. iv) Arav is diagnosed with night blindness. Which vitamin deficiency is responsible? Explain one function and suggest 2 dietary sources. **(3 Marks)**

Q.3. B. i) Illustrate with examples the denaturation of protein and point out 2 changes observed in this process. **(3 Marks)**

ii) Demonstrate how foam can be stabilized using any 2 methods. **(3 Marks)**

Q.3. C. i) Explain how enzymatic browning occurs in fruits and vegetables and apply 2 ways to prevent it. **(4 Marks)**

Q.4. A. i) Explain dextrinization and cite 2 examples. **(3 Marks)**

ii) Differentiate between plant fats and animal fats (3 points). **(3 Marks)**

**OR**

Q.4. A. iii) Explain hydrogenation of fats. **(3 Marks)**

iv) Differentiate between amylose and amylopectin. (3 points) **(3 Marks)**

Q.4. B. i) Discuss 3 methods of oil/ fat extraction. **(3 Marks)**

ii) Explain the two types of rancidity observed in oils. **(3 Marks)**

Q.4. C. i) With the help of a flowchart, explain food evaluation. **(4 Marks)**

Q.5. A. i) Discuss any 3 health claims on food labels. **(3 Marks)**

ii) Explain 3 precautions to avoid rancidity in stored fats. **(3 Marks)**

**OR**

Q.5. A. iii) Using a sample ingredient list, identify 2 key factors to consider when reading food labels. **(3 Marks)**

iv) Why is it not advisable to use plastic containers to whip proteins? **(3 Marks)**

Q.5. B. i) Discuss natural, artificial, nature-identical flavouring agents **(3 Marks)**

ii) Analyse 1 new trend in food packaging **(3 Marks)**

Q.5. C. i) Classify with the help of a flow chart the various methods of food preservation. **(4 Marks)**