

Name:	
Enrolment No:	

**UPES**

**End Semester Examination, May 2023**

Course: **Fundamental of Food Science**

Program: Int.(B.Sc.+M.Sc.(N&D))

Course Code: HSND2005

Semester: IVth

Time: 03 hrs.

Max. Marks: 100

Instructions: Read question carefully. All the best

**SECTION A**

S. No.	MCQ's /Fill in the blanks/ T&F (1.5 marks each)	30 Marks	CO
1	What is dextrinization?	1.5	CO1
2	Germination process is responsible for increasing which vitamins?	1.5	CO1
3	List any two factors which affect gelatinization.	1.5	CO1
4	Name any two advantages of Parboiling.	1.5	CO1
5	Mention any two proteins found in wheat.	1.5	CO2
6	_____ enzyme is responsible for increasing tenderness of meat during ageing.	1.5	CO2
7	What is kefir?	1.5	CO2
8	Name any two microorganisms present in yogurt.	1.5	CO2
9	Name any two microorganisms present in curd.	1.5	CO2
10	Name the enzyme used in cheese formation.	1.5	CO3
11	Define the term Homogenization.	1.5	CO3
12	Full form of HTST: -	1.5	CO3
13	_____ is the disease caused by hemolytic anemia.	1.5	CO3
14	Name any two anti-nutritional factors.	1.5	CO4
15	Name any two advantages of germination.	1.5	CO4
16	What happens in Maillard reaction?	1.5	CO4
17	Green color of peas is due to _____.	1.5	CO4
18	Full form of DOPA: -	1.5	CO5
19	Name the chemical used for ripening of fruits.	1.5	CO5
20	What is crystallization?	1.5	CO5

SECTION B (5 marks each question)			
Q	Short Answer Type Question (5 marks each) Scan and Upload 4 questions 5 marks. Word limit (100-120)	20 Marks	CO
1	Differentiate between Enzymatic and Non-enzymatic browning. Quote suitable examples to support your answer.	5	CO1
2	How does prolong cooking of food affect its pigments? OR What are the different modes of loss of nutrients during cooking?	5	CO2
3	Explain the role of eggs in cookery?	5	CO3
4	Explain the role of fats and oils in food. Name any two common types of fats and oils used in cooking and their potential health effects.	5	CO5
SECTION C 30 marks			
Q	Two case studies 15 marks each sub-sections	30 Marks	CO
1	Case Study 1 (Word limit- 100-150 each question)  Fruits and vegetables are the primary source of vitamins and minerals. It should be included in the diet and daily consumption should be around 400-500g. Apart from the taste, variety of colors is one of the major attractions in F&V. Studies have suggested varied health benefits of consuming fruits daily.  1) State the nutritional classification of vegetables? (5 marks) 2) The bright color of F&V is due to pigments. Explain the classification of pigments with the help of suitable examples. (5 marks) 3) What is the effect of heat on sulfur containing vegetables?	15	CO2
2	Case Study 2 (Word limit- 100-150 each question) The evolution of the dairy sector in India and the stellar role played by dairy cooperatives since the launch of Operation Flood form an integral part of the country's remarkable growth story after Independence. Today, India is the largest producer of milk in the world, contributing 23% of global milk production. Dr. Verghese Kurien, widely renowned as the "Father of White Revolution" in India, was the first chairman of NDDB. Along with his team, Dr. Kurien commenced work on the launch of the project, which envisaged the organisation of Anand-pattern cooperatives in milk sheds across the country from where liquid milk produced and procured by milk cooperatives would be transported to cities.  1) Explain the composition and nutritive value of Milk. (5 marks) 2) What are the steps involved in milk spoilage? (5 marks) 3) What are the stages of milk processing? (5 marks)	15	CO4

SECTION- D 20 marks			
Q	Long Answer type Questions Scan and Upload (10 marks each) Word limit 200-250	20 Marks	CO
1	Wheat is the staple diet of north Indians, also a major source of carbohydrate. Elaborate on the milling process of wheat and its commonly consumed by- products.	10	CO3
2	Discuss the factors that can affect the stability of food emulsions and describe methods used to improve their stability.	10	CO5