

Name:

Enrolment No:



UPES

End Semester Examination, December 2024

Course: Introduction to Food Technology

Program: B.Tech Food Technology

Course Code: HSFT1002

Semester: I

Duration : 3 Hours

Max. Marks: 100

Instructions: All Questions are compulsory

SECTION A

S. No.	Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	30 Marks	CO
1	First most important break through in food processing a) Invention of Fermentation b) Invention of Fire c) Invention of hunting weapons d) Invention of wheel	1.5 marks	CO1
2	Factors affecting RDA a) Physical activity b) Gender c) Skin color d) Both A & B	1.5 marks	CO1
3	RDA should meet more than ..... Requirement of the population a) 97.5% b) 50% c) 80% d) 87%	1.5 marks	CO4
4	Define Food Microbiology?	1.5 marks	CO1
5	What are the centres of energy metabolism in body cells? a) Golgi body b) Endoplasmic reticulum c) Mitochondria d) Nucleus	1.5 marks	CO5
6	If a person consumes 20 g of carbohydrates, 34 g of protein, 25 g of fat and 60 ml of ethanol, how much energy is consumed? a) 945 Kcal b) 861 Kcal c) 620 Kcal d) 750 Kcal	1.5 marks	CO1
7	Water activity is ratio of ..... / .....	1.5 marks	CO4
8	During walking upstairs how much energy is consumed a) 600 Cal/h b) 700 Cal/h	1.5 marks	CO1

	<p>c) 500 Cal/h d) 800 Cal/h</p>		
9	<p>Newest amino acid invented is</p> <p>a) Selenocysteine b) Glutamic acid c) Cysteine d) Lysine</p>	1.5 marks	<b>CO4</b>
10	<p>All amino acids have two functional groups</p> <p>a) Alcoholic group and carboxyl group b) Ketonic group and amino group c) Carboxyl group and amino group d) Amino group and alcoholic group</p>	1.5 marks	<b>CO1</b>
11	<p>High acidic fruits are those having</p> <p>a) pH more than 5 b) pH more than 7 c) pH more than 6 d) pH less than 4.6</p>	1.5 marks	<b>CO1</b>
12	<p>Bonding between two amino acids is</p> <p>a) Glycosidic bond b) Peptide bond c) Hydrogen bond d) Van der waal bond</p>	1.5 marks	<b>CO5</b>
13	<p>Sulphur containing amino acids are</p> <p>a) Thiamine b) Cysteine c) Methionine d) Both b and c</p>	1.5 marks	<b>CO5</b>
14	<p>Mineral stored in bone marrow</p> <p>a) Calcium b) Sodium c) Phosphorous d) Zinc</p>	1.5 marks	<b>CO1</b>
15	<p>Mineral essential for maintenance of blood pH</p> <p>a) Iron b) Zinc c) Sulphur d) Phosphorous</p>	1.5 marks	<b>CO5</b>
16	<p>Highest percentage of sodium present in</p> <p>a) Bones b) Blood c) Brain d) Heart</p>	1.5 marks	<b>CO5</b>

17	Who is known as father of canning a) Nicolas Appert b) Louis Pasteur c) Harry Potter d) Donald Dumbledore	1.5 marks	CO1
18	Most Active form of vitamin D is produced by a) Skin b) Liver c) Kidney d) Intestine	1.5 marks	CO5
19	What do you mean by diglycerides?	1.5 marks	CO1
20	Give an example of complex lipids.	1.5 marks	CO5
<b>SECTION B (4Qx5M=20 Marks)</b>			
Q	<b>Short Answer Type Question (5 marks each)</b>	<b>20 Marks</b>	<b>CO</b>
1	What is Food Technology? What are the Government jobs in Food Sector?	5	CO3
2	Differentiate between lipids and fats? Types of lipids? Importance of lipid in Nutrition?	5	CO4
3	What is water activity? How it is associated with Food shelf life. How is it calculated?	5	CO1
4	Describe about vitamin E? Types of vitamin E? Function of vitamin E.	5	CO2
<b>SECTION C (2Qx15M=30 Marks)</b>			
Q	<b>Two case studies 15 marks each subsection</b>	<b>30 Marks</b>	<b>CO</b>
1	A woman carry out hard physical activity with weight 60 kg and she consumes the following food materials: 80 g of rice (80% CHO, 10 % protein, 2% fat), 200 ml toned milk (protein 3%, CHO 5%, fat 3%), 60 g ghee(99.9% fat), 60 g pulses (protein 25%, CHO 60% and Fat 5%), 300 g apple (CHO 14%, protein 0.5% and fat 0.2%), 50 g potato (CHO 20%, Protein 2%, Fat 0.2), 50 g green leafy vegetable (20% CHO, 11% protein and 3.5% fat) and 120 g ethanol. a) Elaborate about his protein requirement and is she consumes the right amount of proteins? b) Calculate the energy consumption and explain if she consumes enough energy or not?	15	CO3
2	a) What do you mean by omega 3 and omega 6 fatty acids? What are essential fatty acids? Write 2 examples of essential fatty acids. (8 marks) b) Describe how chemically proteins are different from carbohydrates? What is the basic structure of an amino acid? Draw structure of zwitter ion. (7 marks)	15	CO2
<b>SECTION- D (2Qx10M=20 Marks)</b>			
Q	<b>Long Answer type Questions (10 marks each)</b>	<b>20 Marks</b>	<b>CO</b>
1	Classification of Minerals? Describe Importance, function and sources of copper and potassium?	10	CO5
2	Differentiate between starch and cellulose? Importance of dietary fiber in diet? Functional properties of fibers? Give example of five dietary fibers?	10	CO4