



Enrollment No.....

Faculty of Agriculture

End Sem (Even) Examination May-2022

AG3CO52 Principles of Food Science & Nutrition

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

Duration: 3 Hrs.

Maximum Marks: 50

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Buffers are mixtures of- **1**
 (a) Strong acid & strong base
 (b) Strong acid & weak base
 (c) Weak acid & their conjugate base
 (d) Weak base & their conjugate acid
- ii. Colloidal dispersion of one liquid in another immiscible liquid is **1**
 known as-
 (a) Liquid (b) Gas (c) Emulsion (d) Solution
- iii. Starch consists of- **1**
 (a) Unbranched amylose and branched amylopectin
 (b) Branched amylose and branched amylopectin
 (c) Unbranched amylose and unbranched amylopectin
 (d) None of these
- iv. Which is the leading cause of blindness in children worldwide? **1**
 (a) Glaucoma (b) Cataracts
 (c) Colour blindness (d) Vitamin A deficiency
- v. Permeability of cell membrane in the spores of Clostridium **1**
 sporogenes may be affected by which gas?
 (a) CO₂ (b) O₂ (c) NO₂ (d) H₂S
- vi. Which gram negative aerobic rod bacteria are responsible for **1**
 spoilage of fish as food?
 (a) Pseudomonas spp. (b) Acinetobacter spp.
 (c) Moraxella (d) All of these
- vii. Treatment for Marasmus is **1**
 (a) Lipid rich diet (b) Carbohydrate rich diet
 (c) Protein rich diet (d) Micronutrient rich diet

- viii. As per ICMR guidelines, which food group is most suitable on the **1**
 basis of their nutritive value and for the ease to plan a diet
 (a) Basic Four (b) Basic Five
 (c) Basic Seven (d) None of these
- ix. Proteins are made up of- **1**
 (a) Carbon chain (b) Amides (c) Ketone (d) Amino acids
- x. Vitamin D is also known as- **1**
 (a) Ergocalciferol (b) Calcium (c) Calciferol (d) Quinone

- Q.2 i. Definition of food science. **1**
 ii. Define Osmosis. Write down its importance. **2**
 iii. What is colloidal system? Describe in detail & give its classification. **5**
 OR iv. Describe about Surface tension. **5**
- Q.3 i. Define Invert sugar. **1**
 ii. Discuss about the chemical properties of Food. **3**
 iii. Write down the function of water in Human body. **4**
 OR iv. Write down the important function of carbohydrates in human body. **4**
- Q.4 i. Write briefly about bacteria and yeast. **2**
 ii. Define Fermented food with examples. Write down the method of **6**
 processing any fermented food.
 OR iii. What are the causing agents to spoil the fresh and processed foods? **6**
 Explain in detail.
- Q.5 i. Write in detail about carbohydrates metabolism. **2**
 ii. What is food preservation and techniques involved in it? **2**
 iii. What are the principles and methods of Food processing? **4**
 OR iv. What is malnutrition (Over and under)? Write nutritional disorders. **4**
- Q.6 Attempt any two:
 i. Define Balanced diet. Write the dietary guidelines of ICMR to ensure **4**
 a balance diet?
 ii. Write down the physiological function of food in details? **4**
 iii. Write in brief about food pyramid and food plate (USDA)? **4**

Marking Scheme

AG3CO52 Principles of Food Science & Nutrition

Q.1	i.	Buffers are mixtures of-		1
		(c) Weak acid & their conjugate base		
	ii.	Colloidal dispersion of one liquid in another immiscible liquid is known as-		1
		(c) Emulsion		
	iii.	Starch consists of-		1
		(a) Unbranched amylose and branched amylopectin		
	iv.	Which is the leading cause of blindness in children worldwide?		1
		(d) Vitamin A deficiency		
	v.	Permeability of cell membrane in the spores of Clostridium sporogenes may be affected by which gas?		1
		(a) CO ₂		
	vi.	Which gram negative aerobic rod bacteria are responsible for spoilage of fish as food?		1
		(d) All of these		
	vii.	Treatment for Marasmus is		1
		(c) Protein rich diet		
	viii.	As per ICMR guidelines, which food group is most suitable on the basis of their nutritive value and for the ease to plan a diet		1
		(b) Basic Five		
	ix.	Proteins are made up of-		1
		(d) Amino acids		
	x.	Vitamin D is also known as-		1
		(c) Calciferol		
Q.2	i.	Definition of food science	1 Mark	1
	ii.	Define Osmosis.	1 Mark	2
		Write down its importance.	1 Mark	
	iii.	What is colloidal system?	1 Mark	5
		Describe in detail & give its classification.	4 Marks	
OR	iv.	As per the explanation	5 Marks	5
Q.3	i.	Define Invert sugar.	1 Mark	1
	ii.	Discuss about the chemical properties of Food.		3
		For each point	1 Mark	
			(1 Mark*3)	

	iii.	Minimum 4 points	1 Mark each (1 Mark*4)	4
OR	iv.	As per the explanation	4 Marks	4
Q.4	i.	Write briefly about bacteria	1 Mark	2
		Yeast.	1 Mark	
	ii.	Define Fermented food with examples. Write down the method of processing any fermented food.	2 Marks 4 Marks	6
OR	iii.	What are the causing agents to spoil the fresh processed foods? Explain in detail.	3 Marks 3 Marks	6
Q.5	i.	As per the explanation	2 Marks	2
	ii.	What is food preservation Techniques involved in it	1 Mark 1 Mark	2
	iii.	What are the principles methods of Food processing	2 Marks 2 Marks	4
OR	iv.	What is malnutrition (Over and under) Write nutritional disorders.	2 Marks 2 Marks	4
Q.6		Attempt any two:		
	i.	Define Balanced diet. Write the dietary guidelines of ICMR to ensure a balance diet	1 Mark 3 Marks	4
	ii.	Physiological function of food in details Minimum 4 points		4
			1 Mark each (1 Mark*4)	
	iii.	Write in brief about food pyramid food plate (USDA)	2 Marks 2 Marks	4
