

<b>Name:</b>	
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, May 2022**

<b>Course: Food Chemistry</b>	<b>Semester : II</b>
<b>Program: B.Tech Food Technology</b>	<b>Time : 03 hrs.</b>
<b>Course Code: HSCC-1018</b>	<b>Max. Marks: 100</b>
<b>Instructions: All Questions are compulsory</b>	

**SECTION A**

S. No.	Short answer type Questions or Fill in the blanks (1.5 marks each)	30 Marks	CO
1	Which water is not drinkable water a) Glacier water b) Ground water c) Saline water d) Surface water		CO1
2	Density of ice is a) Equal to water b) Greater than water c) Lower than water d) None of the above		CO1
3	Water content in apples and peaches a) 90% b) 80% c) 70% d) 60%		CO4
4	Water binding potential not depends on a) pH of food b) Temperature c) Salt composition d) Triglycerides		CO1
5	How much metabolic water is produced by 100g of fat a) 90 b) 107 c) 56 d) 40		CO5
6	Emulsifying agents reduce a) Emulsion stability b) Foaming stability c) Surface tension d) All of the above		CO1
7	What is flocculation? a) Increase in Surface tension		CO4

	<ul style="list-style-type: none"> <li>b) Increase in Emulsion destabilization</li> <li>c) Increase in creaming</li> <li>d) All of the above</li> </ul>		
8	<p>Empirical Formula of Carbohydrate</p> <ul style="list-style-type: none"> <li>a) <math>(CH_2O)_n</math></li> <li>b) <math>(C_2H_0)_n</math></li> <li>c) <math>(CH_0_2)_n</math></li> <li>d) <math>(C_2H_0_2)_n</math></li> </ul>		<b>CO1</b>
9	<p>A person consume 60 ml of ethanol, 40 g carbohydrates, 30 g protein and 20 g fat. How much calories does he consume?</p> <ul style="list-style-type: none"> <li>a) 660 KCal</li> <li>b) 780 KCal</li> <li>c) 880 Kcal</li> <li>d) 540 KCal</li> </ul>		<b>CO4</b>
10	<p>Which one is 5 carbon ketose</p> <ul style="list-style-type: none"> <li>a) Erythrulose</li> <li>b) Ribose</li> <li>c) Ribulose</li> <li>d) Fructose</li> </ul>		<b>CO1</b>
11	<p>Which two are epimers to each other</p> <ul style="list-style-type: none"> <li>a) Glucose and galactose</li> <li>b) Glucose and Fructose</li> <li>c) Galactose and Mannose</li> <li>d) Fructose and Mannose</li> </ul>		<b>CO1</b>
12	<p>Which one is not an example of dietary fiber</p> <ul style="list-style-type: none"> <li>a) Cellulose</li> <li>b) Hemicellulose</li> <li>c) Pectin</li> <li>d) Amylopectin</li> </ul>		<b>CO5</b>
13	<p>What is gelatinization?</p> <ul style="list-style-type: none"> <li>a) Conversion of amorphous starch into crystalline starch</li> <li>b) Conversion of amylose into amylopectin</li> <li>c) Conversion of crystalline starch into amorphous starch</li> <li>d) None of the above</li> </ul>		<b>CO5</b>
14	<p>What is the end point of Benedict test?</p> <ul style="list-style-type: none"> <li>a) Red precipitates</li> <li>b) Green precipitates</li> <li>c) Blue precipitates</li> <li>d) Violet precipitates</li> </ul>		<b>CO1</b>
15	<p>Which element is highest in proteins</p> <ul style="list-style-type: none"> <li>a) Nitrogen</li> <li>b) Hydrogen</li> <li>c) Carbon</li> <li>d) Oxygen</li> </ul>		<b>CO5</b>
16	<p>Peptide bond is a</p> <ul style="list-style-type: none"> <li>a) Covalent bond</li> </ul>		<b>CO5</b>

	b) Ionic interaction c) Hydrogen bond d) Weak Van der Waals forces		
17	Actin is a a) Catalytic protein b) Transport protein c) Hormonal protein d) Contractile Protein		CO1
18	Whey protein is a) Beta casein b) Beta lactoglobulin c) Alpha casein d) Alpha lactoglobulin		CO5
19	Difference between Oleic acid and linolenic acid a) No of double bonds b) No of carbon chain c) No of carboxylic groups d) None of the above		CO1
20			CO5
<b>SECTION B 20 marks 4 questions 5 marks each</b>			
Q	Short Answer Type Question (5 marks each) 4 questions	<b>20 Marks</b>	<b>CO</b>
1	What is degumming? How it is carried out?	<b>5</b>	<b>CO3</b>
2	What is Emulsion? Types of emulsion and give example of each type?	<b>5</b>	<b>CO4</b>
3	Structural difference between epimers and enantiomers?	<b>5</b>	<b>CO1</b>
4	Differentiate between Macronutrients and micronutrients?	<b>5</b>	<b>CO2</b>
<b>SECTION C 30 marks</b>			
Q	<b>Long answer type Questions. 15 marks each subsections</b>	<b>30 Marks</b>	<b>CO</b>
1	a) Explain the nutritional importance of amino acids. Describe the physical properties of amino acids. (5 marks) b) What is nutritional importance of Vitamin B12. Draw its structure and write down its functions (10 marks)	<b>15</b>	<b>CO3</b>
2	a) What is the basic composition of food materials? How they are classified. Write about minerals. (8 marks) b) Describe the role of vitamin C on health. Draw its structure and deficiency disease. (7 marks)	<b>15</b>	<b>CO2</b>
<b>SECTION- D 20 marks</b>			
Q	Long Answer type Questions Scan and Upload (10 marks each)	<b>20 Marks</b>	<b>CO</b>
1	Explain the sequential changes that arise in lipids during processing.	<b>10</b>	<b>CO5</b>

2	a) Differentiate between gelatinization and retrogradation. (5 marks) b) Effect of color and flavor on sensory properties of food? (5 marks)	10	CO4
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All Questions should be mapped with equal distribution of Cos ×÷