

END SEMESTER/ RE-TEST EXAMINATION, 2020

Semester: 3rd

FPT-301

Introduction to Food Processing Technology

Full Marks: 70 (Part A-25 + Part B-45)

Duration: 3 hours



Instructions:

1. Questions on Part A are compulsory
2. Answer any five questions from Part B

PART-A		
MARK-25		
Questions no.	Questions	marks
Question 1	Fill in the blanks:	1x10-10
1a	----- is a basic requirement of man than even shelter and clothing.	
1b	Lack of any particular ----- in sufficient quantity leads to malnutrition.	
1c	----- are autotrophic and produce food in the form of carbohydrates using sunlight, water, minerals and CO ₂ by photosynthesis process.	
1d	The energy value of food is measured in heat units called -----.	
1e	----- functions as a carrier of nutrients and waste products in the body.	
1f	The free availability of water in food system may be quantitatively expressed as -----.	
1g	The empirical formula of carbohydrate is -----.	
1h	In D-configuration of sugars, the highest numbered asymmetric carbon has the OH group directed to the -----, in Fischer projection formula.	
1i	----- is a polymer of D-glucose and found as a storage carbohydrate in plants.	
1j	In presence of amino acids the browning of sugars occurs in a	

	sequence of reactions called -----	
Question no.2	Write true or false:	1x10=10
2a	Lipids are insoluble in water but soluble in nonpolar solvents.	
2b	Lard and tallow are non-liquid fats of animal origin.	
2c	Fats and oils provide 9 kcal/g energy.	
2d	Fatty acids that occur in foods are straight chain monocarboxylic acids with an even number of carbon atoms.	
2e	Fatty acids of ω -3 and ω -6 types have been identified as essential fatty acids.	
2f	Value of dry basis moisture content of a food item is always higher than the wet basis moisture content of the same food.	
2g	Pectin is soluble in hot water.	
2h	Fermented products are readily digestible.	
2i	Glycogen is a reserve polysaccharide in human body.	
2j	Proteins present in milk are casein and serum protein.	
Question no. 3	Choose the correct answer	1x5=5
Q 3a	Sterilization is carried out at	
	i. 121°C for 15 minutes ii. 121°C for 15 seconds iii. 120°C for 15 minutes iv. 120°C for 15 seconds	
3b	Vitamin C deficiency causes	
	i. Night blindness ii. Scurvy iii. Goitre iv. None of the above	
3c	Which of the following is an extrinsic factor	
	i. Temperature ii. Redox potential iii. Humidity iv. None of the above	
3d	Water functions mainly as a	
	i) carrier of nutrients and waste products ii) solvent to dissolve solutes iii) liquid medium for biochemical reactions iv) all of the above	
3e	Haemoglobin is the pigment present in	



- i) Blood ii) Fruits iii) Vegetables iv) None of this

PART-B, MARK-45		
Questions no.	Questions	marks
Question no. 4	Answer the following questions:	3×3=9
Q4a	What are oligosaccharides? Give two examples with their monosaccharide composition.	
Q4b	What are preservatives? Classify the preservatives as per PFA and give examples.	
Q4c	What is moisture content? Describe the methods to calculate the moisture content of a food item.	
Question no.5	Answer the following questions:	3×3=9
Q5a	Explain the process of blanching in brief. What is the objective of blanching?	
Q5b	Describe the pasteurization process.	
Q5c	What are the primary aims of drying of foods?	
Question no. 6	Answer the following questions:	3×3=9
Q6a	Classify the foods based on their ease of spoilage. Give one example of each kind.	
Q6b	Explain macrominerals and microminerals with examples.	
Q6c	Describe how spoilage in food occur due to enzymes in fruits and vegetables?	
Question no. 7	Answer the following questions:	3×3=9
Q7a	What is caramelization, maillard reaction and enzymatic browning reaction?	
Q7b	Write three role of fats and oils in biological system.	
Q7c	What is fermentation? What are the types of fermentation process?	
Question no. 8	Answer the following questions:	5+4=9
Q8a	250 kg of freshly harvested paddy with initial moisture content of 24% (wb) was dried to obtain a marketable moisture level of 12% (db). Find out the weight of dried paddy and the amount of dry	5

	matter/solid matter present in the dried paddy.	
Q8b	Write a note on the basic principles of food preservation.	4
Question no. 9	Answer the following questions:	4.5×2=9
Q9a	What are fat soluble and water soluble vitamins? Discuss with example.	
Q9b	Describe drying and evaporation. Is there any difference between those two processes.	
Question no. 10	Describe the factors influencing the growth of microorganisms in food.	9
Question no. 11	Write short notes on irradiation and refrigeration methods of food preservation.	9
Question no. 12	Explain various functions of food packaging.	9

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