



Name :

Roll No. :

Invigilator's Signature :

CS / B.TECH(FT)(N) / SEM-5 / FT-501 / 2012-13

2012

FOOD PROCESS TECHNOLOGY-I
(Cereals, Fruits and Vegetables, Beverages)

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

i) Tortillas is prepared from

- | | |
|----------|-----------|
| a) wheat | b) corn |
| c) rice | d) maize. |

ii) During bread preparation tenderizing effect is given by

- | |
|------------------------|
| a) fats and oils |
| b) sugar |
| c) flour |
| d) ammonium phosphate. |



xv) Banana is an example of

- a) high pectin fruit
- b) medium pectin fruit
- c) low pectin fruit
- d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Why cereal grains are dried before storage ? Describe the process of batch drying employed with cereals with artificially heated air. $2 + 3$
3. What is glutinous rice ? How the textural properties of rice products prepared from glutinous rice differ from those produced from ordinary rice ? $2 + 3$
4. What are the major difficulties arise out of small-scale milling of corn ? Why grits cannot be stored for longer time ? $4 + 1$
5. How fruit juice is prepared from raw fruit ? What are the factors responsible for spoilage of fruit juices ? $3 + 2$
6. What is 'weeping' of jelly ? How it is occurred ? $2 + 3$



7. How will you judge the end point of boiling during jelly preparation ? What are the main factors on which gel formation depend ?

3 + 2

GROUP – C

(Long Answer Type Questions)

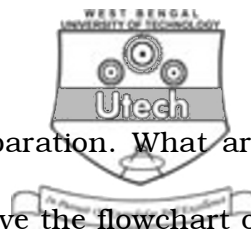
Answer any *three* of the following. $3 \times 15 = 45$

8. Give the flow sheet of potato powder processing. Discuss about the storage and handling hindrance of raw potato in West Bengal. Define and explain the terms gelatinization, dextrinisation, retrogradation and syneresis of starch.
9. How tempering conditioning improve the milling efficiency of wheat ? Discuss the processes briefly. What is the purpose of using air classifiers and impact mills in flour milling process ? Explain in short how air classifiers and impact mills work. What do you mean by patent flour and whole wheat flour ?
10. How tea waste can be utilized as by-products of food processing industry ? What are the benefits of using tea waste ? Describe along with flow diagram about the processing parameters used during tea waste utilization.

4 + 3 + 8

8 + 3 + 2 + 2

5 + 5 + 5



11. Write down the process of black tea preparation. What are the factors affecting the quality of tea ? Give the flowchart of cocoa manufacture.

9 + 3 + 3

12. Outline the process of manufacture of potato chips. Why a blanching step is necessary before frying of sliced potato ? What is deep-fat frying and what is the range of optimum frying temperatures for potato chips ? Why a high temperature frying is not favoured ? Describe different parts of a continuous frying unit used for chip frying. What is "oil turnover" ?

4 + 1 + 3 + 1 + 4 + 2

13. Discuss about the modern rice milling process with a flow diagram. Write a short note on rice bran. State the essential steps involved in extractive milling of rice.

9 + 3 + 3

14. Explain briefly the preparation and preservation of unfermented fruit beverage. Justify the statement "Jam is a product made by boiling fruit". What are the problems faced in jam production ?

7 + 5 + 3



15. What is non-nutritive sweetener ? Whether aspartame is a non-nutritive sweetener-explain. What is phenylketonuria and why it occurs ? How sucralose is manufactured ? Why sucralose has an advantage in its use over some other non-nutritive sweetener ?

2 + 3 + 4 + 3 + 3

16. Write short notes on any *five* of the following :

5 × 3

- a) Durum wheat
- b) Lye peeling
- c) Rice polish
- d) Humectant
- e) Thickening agent
- f) Marmalade
- g) Crush and syrup.

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