



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech (FT-OLD)/SEM-4/FT-403/2013

2013

FOOD PROCESS TECHNOLOGY - I

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

(Objective Type Questions)

1. Answer any *ten* of the following questions : $10 \times 1 = 10$

A) Choose the correct alternatives for the following :

i) Largest structural part of cereal grains is

- a) Hull
- b) Bran
- c) Endosperm
- d) None of these.

ii) Aleurone layer is rich in

- | | |
|-----------|-------------------|
| a) starch | b) protein |
| c) lipid | d) none of these. |



- iii) Botanical name of Barley is
- a) *Triticum compactum*
 - b) *Hordeum vulgare*
 - c) *Secale cereal*
 - d) *Pennisetum glaucum*.
- iv) Outermost layer of seed is
- a) Hull
 - b) Husk
 - c) Testa
 - d) Pericarp.
- v) Drying temperature for cereal grains varies from
- a) 10° C - 28° C
 - b) 30° C - 42° C
 - c) 82° C - 104° C
 - d) 108° C - 123° C.
- vi) 'Scourer' used for
- a) degerming purpose
 - b) germ separation purpose
 - c) cleaning purpose
 - d) milling purpose.
- vii) Attrition mill is used for grinding softer material by creating force of
- a) compression
 - b) impact
 - c) shear
 - d) none of these.



- viii) The major maize protein is
- a) Gluten
 - b) Zein
 - c) Casein
 - d) None of these.
- ix) Corn starch is used as thickeners by cross-linking of starch with
- a) Palmellic acid
 - b) Glutamic acid
 - c) Adipic acid
 - d) None of these.
- x) Flour from weak wheat is ideal for
- a) crackers
 - b) cakes
 - c) biscuits
 - d) all of these.
- xi) Triticale is hybrid cereal grains derived by breeding between
- a) wheat and rice
 - b) rice and rye
 - c) wheat and rye
 - d) none of these.
- xii) Bleaching agent used for wheat flour is
- a) NO_2
 - b) Cl_2
 - c) Agene
 - d) All of these.



xiii) Parboiling of rice increases

- a) nutrition of rice
- b) yield of rice
- c) resistance of kernel to breakage
- d) all of these.

B) Fill in the blanks :

xiv) Ferrous metals are removed by passing cereal grains through

xv) Dry corn starch powder is roasted with minute quantities of hydrochloric acid to form

GROUP – B

(Short Answer Type Questions)

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

- 2. Write down a short note on drying of cereal grains.
- 3. Write down the full forms of SEM, FPO, FDA, HACCP, MPO, SGP, FAO, ISO, BIS.
- 4. Write down short notes on starch gelatinization and retrogradation of starch. $3 + 2$



5. Describe the principles of 'Destoners or stoning machine'.
6. Write down short notes on pickles.
7. What do you mean by adulteration of food ? Give example of preservative according to the Prevention of Food Adulteration Act (PFA), 1954, Rule 52.

GROUP – C

(Long Answer Type Questions)

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

8. a) Narrate briefly the wet milling of maize with flow diagram. What are the fractions resulted from this milling and how are they utilized in industries ? $5 + 4$
- b) Classify the wheat on the basis of their texture. 6
9. a) Which constituent gives coffee its stimulating effect ? Enumerate briefly the steps in the manufacturing of coffee from coffee beans ? What is decaffeinated coffee ? 9
- b) What is instant tea ? Why is aromatization of instant tea essential and how is this achieved in industries ? 6

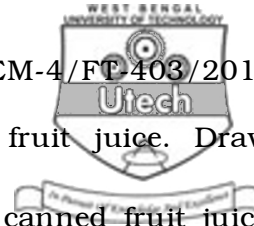


10. a) Briefly describe the hazards that need attention during storage of cereal grains. 8

b) Briefly describe the safe drying temperature for wheat in relation to its temperature by using graph. 7

11. a) Draw a flow diagram for a synoptic representation of vegetable canning process. Discuss in little bit more detail the processing steps involved in canning of produce. 9

b) Mention the causes which may deteriorate a freshly prepared juice. What are the chemicals usually used in preserving a fruit juice. 6



12. a) Briefly describe the processing of fruit juice. Draw flowdiagram for a representation of canned fruit juice processing. 9

b) Differentiate between the following : 3 × 2

i) Jelly and Marmalade

ii) Pickles and Chutney

iii) Sauce and Ketch-up.

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