



Name :

Roll No. :

Invigilator's Signature :

**CS/B.Tech(FT)/SEM-7/FT-702/2009-10
2009**

**FOOD ADDITIVES & POST-PROCESS
OPERATIONS**

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 of the following : $10 \times 1 = 10$
 - i) Tartrazine is a food additive which is coloured
 - a) red
 - b) pink
 - c) yellow.
 - ii) EDTA forms complex with the metal
 - a) iron
 - b) copper
 - c) magnesium.
 - iii) Humectants are substances that
 - a) retain food texture
 - b) retain food moisture
 - c) prevent lumping.



- iv) The stablest form of cocoa butter is
- a) alpha form
 - b) beta form
 - c) gamma form.
- v) Diacetyl (synthetic flavour) is used as a substitute for
- a) grapes
 - b) bitter almond
 - c) banana
 - d) butter.
- vi) Splenda is the brand name of the non-nutritive sugar
- a) cyclamate
 - b) aspartame
 - c) saccharin
 - d) sucralose.
- vii) Annato (natural colourant) is used in
- a) butter
 - b) cheese
 - c) margarine
 - d) all of these.
- viii) In sauerkraut preparation the preservative added (if necessary) is
- a) sorbic acid
 - b) acetic acid
 - c) malic acid
 - d) none of these.
- ix) BHA is used at the maximum level of
- a) 0.01%
 - b) 0.02%
 - c) 0.1%
 - d) 0.2%.
- x) Sweet chocolate coating must contain chocolate liquor
- a) 10%
 - b) 15%
 - c) 35%
 - d) none of these.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.

3 × 5 = 15

2. What are the antioxidants ? Give example. Suggest any one method of how oxidation can be prevented with the help of antioxidants.
3. Write a short note on curing agents.
4. Write a short note on flour improver.
5. How are flavouring substances classified ? Write short note on monosodium glutamate. 2 + 3
6. Why is hydroxy benzoic acid superior to benzoic acid ? In which substances para and ortho hydroxy benzoic acid is naturally occurring compound ? 4 + 1

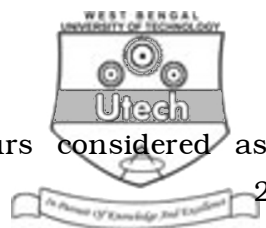
GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.

3 × 15 = 45

7. What is Pan Coating ? What are its different types ? Briefly describe each type.
8. a) What are the functions of food additives in the production of different foods ? How can these additives be classified ? Enumerate with examples. What should be the justification for the use of a food additive in foods ? 10
- b) How is propionic acid rated as a preservative in foods ? State the physical characteristics of the acid and mention where it is found naturally. What attributes impart propionic acid its antimicrobial activity ? 5



9. a) In what sense are synthetic colours considered as superior to vegetable colours ? 2
- b) Give natural sources of anthocyanin. What do you mean by betalaines ? What is its colour ? 2 + 2 + 1
- c) What is meant by coal tar dyes and why ? 2
- d) Explain fortification of food. 3
- e) What is nisin ? From which organism is it produced ? 2 + 1
10. a) What is meant by food additives ? 2
- b) Which factors should be considered to select an additive ? 4
- c) Why are they used in food ? State in brief. 5
- d) Which preservatives are used in bread ? What do you mean by ropiness of bread ? Name the organism responsible for it. 3
- e) Which preservative is the most effective in baking industry ? 1
11. Write short notes on any *three* of the following : 3 × 5 = 15
- a) Food colourants
- b) EDTA
- c) pH control agents
- d) Enrobers.