

17FT004 FOOD QUALITY SYSTEMS AND MANAGEMENT

Hours Per Week :

L	T	P	C
3	-	3	5

Total Hours :

L	T	P	WA/RA	SSH/HSB	CS	SA	S	BS
45	-	45	15	30	-	5	5	-

Course Description and Objectives:

The course deals with global food safety laws, standards and regulations. The objective of the course is to impart knowledge to students on national and international food standards along with application of ISO and HACCP in food processing industries.

Course Outcomes:

Upon successful completion of this course student should be able to:

- understand about toxins from bacteria and fungi
- know about different food additives, anti-nutrients, anti-vitamins used in food processing
- explain about heavy metal contamination in foods
- discuss about food safety and microbial standards

SKILLS:

- ✓ Identify the different sources of food contamination
- ✓ Categorize the contaminants on the basis of severity
- ✓ Prepare quality control charts for a given process
- ✓ Identify different allergens in foods
- ✓ Identify natural toxin present in food

UNIT – I	8 hr
Concept of quality: Quality attributes- physical, chemical, nutritional, microbial, and sensory; their measurement and evaluation; Sensory visàvis instrumental methods for testing quality	
UNIT – II	12 hr
Concepts of qualitymanagement: Objectives, importance and functions of quality control; Quality management systems in India; Sampling procedures and plans; Food Safety and Standards Act, 2006.	
UNIT – III	10 hr
Domestic regulations; Global Food safety Initiative; Various organizations dealing with inspection, traceability and authentication, certification and quality assurance (FSSAI Act, AGMARK, BIS); Labeling issues; International scenario, International food standard	
UNIT – IV	8 hr
Quality assurance, Total Quality Management; GMP/GHP; GLP, GAP; Sanitary and hygienic practices; HACCP; Quality manuals, documentation and audits; Indian & International quality systems and standards like ISO and Codex.	
UNIT – V	10 hs
Export import policy; export documentation; Laboratory quality procedures and assessment of laboratory performance; Applications in different food industries; IPR and Patent.	

FOOD PROCESS ENGINEERING LAB-II

1. Preparation of bread by straight dough methods
2. Preparation of yeast dough products - I
3. Preparation of yeast dough products - II
4. Preparation of Cakes and Cake decorations, cookies
5. Experiment on magnetic treatment of seeds.
6. Experiment on drying of seeds by thin layer drying.
7. Effect of microwave heating of seeds on germination of seeds.
8. Experiment with inclined belt separator.
9. Experiment with spiral separator.
10. Experiment with air screen cleaner.
11. Evaluation of specific gravity separator.
12. Evaluation of tomato seed extractor.
13. Evaluation of chillies seed extractor.
14. Experiment on distillation.
15. Experiment on centrifugal separation.

ACTIVITY:

- Detection of natural toxins and allergens from various processed products.

16. Experiment on vacuum filtration.
17. Experiments on ultra-filtration.
18. Experiment on reverse osmosis.
19. Experiments on pinmill and ball mill
20. Experiments on attrition mill and hammer mill.
21. Experiments on mixing of solids and liquids.
22. Preparation of regional fruit juices
23. Preparation of whey-based beverages
24. Preparation of iced and flavoured tea beverage
25. Preparation of carbonated and noncarbonated soft drinks
26. Preparation of soy milk, fruit milkshakes, herbal beverages

TEXTBOOKS:

1. AmerineMA et al 1965. Principles of Sensory Evaluation of Food. Academic Press.
2. Early R.1995. Guide to Quality Management Systems for Food Industries. Blackie Academic.
3. Furia TE.1980. Regulatory Status of Direct FoodAdditives. CRC Press.
4. Jellinek G. 1985. Sensory Evaluation of Food - Theory and Practice. Ellis Horwood.
5. Krammer A& Twigg BA.1973. Quality Control in Food Industry. Vol. I, II. AVI Publ.
6. Macrae R. et al.1994. Encyclopedia of Food Science & Technology & Nutrition. Vol. XVI. Academic Press.

REFERENCE BOOKS:

1. Piggot JR. 1984. Sensory Evaluation of Foods. Elbview Applied Science.
2. Ranganna S. 2001. Handbook of Analysis and Quality Control for Fruit and Vegetable Products. 2nd Ed. Tata-McGraw-Hill.
3. Export/import Policy by Govt of India.