GUJARAT VIDYAPEETH
AHMEDABAD

M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar

Faculty of Science and Applied Science

Bachelor of Vocational (Food Processing Technology)

Semester-V
(In Force from June-2017)
Objectives

- To acquire knowledge about the selection of fruits for processing and value addition

- To introduce the latest technologies, manufacturing processes and tools for effective control of safety and quality during processing

Unit-1. Introduction, Processing of juice, jam and jelly


Unit-3. Processing of tomato, apple and orange, Pineapple and Mango & Processing of vegetables

Tomato juice, canned whole tomatoes, tomato ketchup, tomato jams, tomato puree, tomato powder. Apple and apple product- Clarified apple juice, aseptically packed apple puree, apple cider, orange products- orange juice, concentrated orange juice, orange squash, orange jams. Pineapple products- juice, jam, canning Mango and mango products- raw unripe mango products: brined mango slices, dried green mango slices and powder (Amchur), canned mango slices in syrup, canned or frozen mango pulp, mango juice or mango nectar, mango jam, mango squash, mango juice powder, mango freeze dried products, mango syrup. Processing of okra (ladies finger),
potatoes, onions, carrots, green peas, procuring, transportation, storage, processing, packaging and warehousing.

**Text books:**

1. Siddappa and Bhatia, Fruits and Vegetable Processing Technology
2. Lea, R. A. W, Fruit juice processing and packaging
3. Hui, Y. H. Processing of fruits
4. Cash J. N. Processing of vegetables
5. Jongen, W. Fruit and vegetable processing
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FPT-501 FRUIT AND VEGETABLE PROCESSING-Practical

(Syllabus of practical portion) (In force from June, 2017)
Total Mark: 100 = External Evaluation: 60 Marks +
Internal Evaluation: 40 Marks)
(Total Teaching Hours = 45, Credit = 00 + 02)

Objectives

- To be innovative in exploring various processed and value added from agricultural Commodities

1. Dehydration of carrot.
2. Processing of mango squash and mango pickle.
3. Processing of pineapple jam.
4. Manufacture of tomato puree.
5. Manufacture of lemon pickle and lemon juice.
6. Manufacture of tomato ketchup and tomato sauce.
7. Manufacture of tutifruity.
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Objectives

- To be familiar with different methods and materials used for packaging.
- To understand the technology behind packaging.

Unit-1. Introduction to food packaging, Laws & Specifications

Definition, functions and requirements for effective packaging, packaging criteria, Classification of packaging- Primary, secondary and tertiary packaging, Flexible, rigid and Semi-rigid packaging.

Quality testing of packaging materials

- Paper & paper boards-thickness, bursting strength, grammage, puncture resistance, Cobbs test, tearing resistance.
- Flexible packaging materials (plastics)-yield, density, tensile strength, elongation, impact resistance, WVTR, GTR, Overall Migration Rate, seal strength.
- Transportation hazards and testing.
- Oxygen interactions, moisture interchanges and aroma permeability.

Materials for food packaging

Paper, Glass, Tin, Aluminium: TFS, Polymer coated tin free steel cans, cellophane, plastics-LDPE, HDPE, LLDPE, HMHDPE, Polypropylene, polystyrene, polyamide, polyester, polyvinyl chloride.

Unit-2. Different forms of food containers, Modern concepts of packaging technology

Boxes, jars, cans, bottle. Interaction of packages with foods-Global migration of plastics, packaging requirements for various products- fish, meat, spices, vegetables &

**Text books:**

Objectives

- To be familiar with different methods and materials used for packaging.
- To understand the technology behind packaging.

1. Food Technology Aseptic Packaging
2. Quality Testing of Packaging Material
3. Visit of Various Packing Industry
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Objectives

- To know about scope and milestone of microbiology.

Unit-1:

Introduction to Microbiology: meaning, scope and milestone of microbiology: classification of micro-organisms- their taxonomy and nomenclature, kingdom, morphology, growth and growth rate; methods in microbiology cultivation, isolation, purification and preservation of microorganisms; types of microscopes and their use; microbes as friends and foes-its destruction through sterilization and disinfection; bacteria and other micro-organisms;

Unit-2:

Food and water borne infections- bacterial, typhoid and para-typhoid fevers, cholera, shigellosis, food poisoning, poliomyelitis, giardiasis, intestinal helminthes; diseases transmitted through animal bites-Malaria, Filariasis, Cat bite and rat bite fever, plague, Rabies, diseases through ARBO viruses; contact diseases

Text books:


Objectives

- To know about scope and milestone of microbiology.

1. Microbiology laboratory instruments and their uses; practice of disinfection and sterilization methods; use of various microscopes and observation of various microorganisms; staining bacteria-simple staining method, differential staining method, negative staining method, special staining; isolation and identification of microorganisms;
2. Study of effect of ultra violet rays, PH, temperature, dyes, chemicals etc. on the growth of micro-organism; antimicrobial effect of antibiotics-agar ditch method, agar cup method, paper disc method;
3. Examination of microorganisms in air, water, moldy bread, milk sewage; culture media;
4. Examination of pathogenic. Micro organics; hanging drop preparation; bacterial cultivation preparation and sterilization of media, nutrient agar, inoculation, incubation.
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Objectives

(1) To know about traditional food and Indian Products Use to process.
(2) To know different production process.

Unit I. Introduction to Food Service Units, Organization & Management

• Origin of Food Service units
• Kinds of food service units
• Principles of management
• Functions of management! manager

Unit II. Food Production Process

• Food purchase and receiving
• Storage
• Quantity food production: Standardization of recipes, Recipe adjustments and portion control, Quantity food production techniques
• Food service
• Food hygiene and sanitation
Text Books:

Objectives

(1) To know about traditional food and Indian Products Use to process.
(2) To know different production process.

1. Market survey for food items both raw and processed 1

2. Survey of food service units 1

3. Standardization of a recipe 2

4. Preparing Quick Foods for scaling up for quantity production 2

1. Planning menus for the following: 6
   • Packed meals for office employees
   • Nutritious tiffins for school children
   • School/college canteens

   Demonstration of a specialized cuisine 1

   Develop a checklist for good hygiene practices 1

Exploring and enlisting traditional recipes of different states of the country. Standardization of common recipes of North, East, South, West and Central zone of country. Preparation of meals of different state. Value addition of traditional recipes and meals. Nutrient composition of traditional v/s value added meals.
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FPT-505- FOOD SCIENCE
(Syllabus of Practical portion) (In force from June, 2017)
Total Mark: 100 = External Evaluation: 60 Marks +
Internal Evaluation: 40 Marks)
(Total Teaching Hours = 90, Credit = 00 + 04)

Objectives:

Unit I: Introduction to food science, Chemistry, Microbiology

• Definition, importance and applications
• Basic terminology used in food science
• Sources, chemistry and functional properties of Carbohydrates, Lipids and
  Proteins.
• Colloidal chemistry: Definition, classification, properties and applications of sols,
  gels, foams and emulsions.
• Introduction to yeast, mold and bacteria - Characteristics and their role in
  preservation and spoilage of food.
• Hygiene and sanitation practices in food processing and waste disposal.

Unit II: Preservation techniques, principles and their applications
• High temperature, low temperature, removal of moisture, irradiation and
  additives. • Food packaging and labeling: FSSAI, Codex

Text Book :

• www.fssai.gov.in
• Raina U, Kashyap 5, Narula V, Thomas 5, Suvira, Vir 5, Chopra S (2010). Basic Food
  CBS Publishers & Distributers Pvt. Ltd.
Objectives:

1. Applications and factors affecting formation of Sols, gels, foams and emulsions ii. Study of microscopic structure of different food starches and their gelatinization properties

2. Slide preparation and identification of bacteria yeast and mold ii. Assessment of hygienic practices of food handlers

3. Preservation of food using different methods (Blanching, Dehydration, Freezing) Basic principle involved in food preservation using additives


5. Evaluation of Food labels
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Semester-V 
(In Force from June-2017)

FPT-506: Internship/Fieldwork 
(Syllabus of theoretical portion) (In force from June, 2017) 
Total Mark: 100 = External Evaluation: 60 Marks + 
Internal Evaluation: 40 Marks) 
(Total Teaching Hours = 30, Credit = 02 + 00)

- Students will go for the 15 days filed work or internship any food industries related organization during the semester.

- Students will be given a case study during the internship and they have to submit a report thereon at the end of the semester, on dates announced by the department. The guidelines for training will be provided by the department.

- A team consisting of internal & external experts will evaluate the record and conduct the viva-voice at the end of semester.
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(In Force from June-2017)

ENG-501: English

(Syllabus of theoretical portion) (In force from June, 2017)
Total Mark: 100 = External Evaluation: 60 Marks +
Internal Evaluation: 40 Marks)
(Total Teaching Hours = 30, Credit = 02 + 00)

Adopted from Microbiology Department
Introduction to Presentation Software: - પ્રેઝન્ટેશન સોફ્ટવેરનો પરીચય

Need for a Presentation - પ્રેઝન્ટેશનની જરૂરિયાત

What can you create in Presentation Software - પ્રેઝન્ટેશન સોફ્ટવેર દ્વારા ખોટા સ્થાપન

ક્યારે, Presentation Technique (4P) - પ્રેઝન્ટેશનની ટેકનિક્ક

Facilities available in Presentation Software - પ્રેઝન્ટેશન સોફ્ટવેરમાં ઉપલબ્ધ વિશેષાંક

1.2 Presentation Wizard - પ્રેઝન્ટેશન વિજાય

Empty Presentation - એમ્પટી પ્રેઝન્ટેશન, From Template - ફ્રોમ ટેંપલેટ,

Open Existing Presentation - ઓપ્ન એકસ્ટાર્ટિંગ પ્રેઝન્ટેશન

1.3 Presentation Views - પ્રેઝન્ટેશન વ્યુ

Normal / Outline / Slide sorter / Slide show / Notes Page / Handout Page

1.4 To create Presentation
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EC-501: COMPUTER (Practical)  
(Syllabus of practical portion) (In force from June, 2017)  
Total Mark: 100 = External Evaluation: 60 Marks + Internal Evaluation: 40Marks)  
(Total Teaching Hours = 45, Credit = 00 + 02)  

1 Database Management – 1  
1 Concept of Database  
2 Database design concept  
3 DBMS, Feature of DBMS  
4 Elements of database