GUJARAT VIDYAPEETH
AHMEDABAD

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

Faculty of Science and Applied Science

Bachelor of Vocational (Food Processing Technology)

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

- To enable the students
- To understand the basics of nutraceuticals and functional foods.
- To study the significance of nutraceuticals and their role in disease prevention.
- To identify new strategies for marketing of traditionally known nutraceuticals.

Unit-1. Nutraceuticals: Historical, Teleological Aspects and Classification, Flavonoids and Carotenoids as Antioxidants

Introduction – Historical Reviews - Teleology of nutraceuticals - Organization models for nutraceuticals – Classification of Nutraceuticals based on the sources – Animal, Plant and Microbial – Nutraceuticals in specific foods - Mechanism of Action - Chemical nature.

General background on phytochemicals as antioxidants – Flavonoids and Lipoprotein oxidation – Evidence for specific Antioxidant mechanisms of Flavonoids – Anticancer and Cholesterol-lowering effect of citrus flavonoids – Dietary carotenoid and carotenoid absorption – Approaches to measurement of absorption – Metabolism of Carotenoids – Carotenoids as anticancer agents.


Introduction to Lipoprotein metabolism - PUFA and Cardiac Arrhythmias - Preventative role of n-3 fatty acids in cardiac arrhythmias – Mechanism, of action on n-3 PUFA’s - ω – 3 fish oils and their role in Glycemic control- ω – 3 fatty acids and rheumatoid arthritis - Chemistry and Nomenclature of CLA – Analysis of CLA in food and biological samples – CLA in food products and biological samples – Biological actions and potential health benefits of CLA – Mechanisms of CLA action


Text books:

Objectives

- To enable the students
- To understand the basics of nutraceuticals and functional foods.
- To study the significance of nutraceuticals and their role in disease prevention.
- To identify new strategies for marketing of traditionally known nutraceuticals.

(1) Nutraceuticals Historical Reviews
(2) Specification of Food
(3) Omega
(4) Lycopene, Garlic, Olive Oils Nuts,
(5) Probiotics and Prebiotics
(6) Stability Testing
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Semester-VI  
(In Force from June-2017)  
FPT-602 TECHNOLOGY OF BEVERAGES  
(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)  

- To enable the students to get an up to date knowledge about fermented foods and beverages.  

Unit-1. Introduction & Classification of Beverages, Carbonated Beverages  

Unit-2. Tea & Coffee  

Text books:  
5. Varnam A. H and Sutherland P.J., Beverages: Technology, Chemistry and Microbiology, Aspen Publications, 1999
Objectives

- To enable the students to get an up to date knowledge about fermented foods and beverages.

(1) Classification of All Type Beverages
(2) Alcoholic Beverages
(3) Carbonated Beverages
(4) Black Tea, Green Tea
(5) Percolator Coffee
(6) Espresso Coffee
(7) Iced Coffee
(8) Instant Coffee
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Semester-VI
(In Force from June-2017)
Objectives

- To be familiar with different methods of drying.
- To understand the technology behind drying

Unit-1. Introduction, Packing,

Food dehydration, dehydration principles, selection of methods based on characteristics of foods to be produced, heat and mass transfer, difference between drying and dehydration. Packaging materials for dried foods, storage, transportation.

Unit-2. Mechanism of drying, Driers used in food industry, Processing of some Dehydrated foods

Drying curve, constant rate period, falling rate period, dry and wet bulb temperature, factors affecting dehydration, Physical and chemical changes during drying, Effect of food properties on dehydration, cell structure, case hardening, control of changes Drying methods, equipments, sun drying, air convection driers, kiln drier, cabinet drier, tunnel drier, fluidized bed drier, spray drier, drum drier, vacuum drier, freeze drier, advantages and disadvantages of different methods. Processing of milk powder, raisins, osmotic dehydrated foods, intermediate moisture food, dehydrofreezing
Text books:


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FPT-603 DRYING TECHNOLOGY(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 familiar with different methods of drying.
- To understand the technology behind drying

1. Visit of Dairies and Food Industries
2. Processing from dehydrate foods
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(In Force from June-2017)

FPT-604 SENSORY EVALUATION

(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)

Objectives

- To understand different aspects of sensory science and its application.

Unit-1. Introduction, Testing conditions

Sensory evaluation: Definition & Importance of sensory evaluation; Practical requirements for conducting sensory tests, limitations of sensory evaluation.

General testing conditions - Testing area, testing set up, lighting, testing schedule, Preparation of samples, sample coding, evaluation card preparation.

Unit-2. Sensory assessment, Sensory Tests, Data analysis

Taste—Taste sensation on the tongue, Recognition test for the four basic tastes, Water quality for sample preparations, Standard compounds used for preparing basic tastes, Taste modifiers, Perception of sweet taste. Odour and Smell – Anatomy of nose, Smelling techniques, Vonskramlk, Test, Theories of olfaction Texture—Definition, Classification of textural characteristics, glossary of textural terms, Definition for mechanical properties, Texture measurement Colour vision and appearance measurement-Structure of eye, Visual perception and colour of foods. Flavour and aroma - aroma perception, Definition of flavour, Flavour profile methods, Flavour compounds Temperature sensation, pain sensation, touch sensation, kinesthetic sensations, and sound sensations.

Threshold test, Difference test, Ranking test, Hedonic test, Acceptance and Preference test, scoring test, Sensitivity test Application of sensory analysis in food industry, trained panel members. Importance of data analysis, tests of significance, null hypothesis, mean, median, variance, standard deviation, t-test, chi-square test.
Text books:


Objectives

- To understand different aspects of various sensory parameters and its application in food quality analysis.

- The following tests will be done.

1. Triangle test
2. Single sample test
3. Paired comparison test
4. Duo-trio test
5. Hedonic rating test
6. Numerical scoring test
7. Ranking test
8. Overall acceptability
9. Flavor profile
10. Descriptive test
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Semester-VI
(In Force from June-2017)
Objectives

- To understand different aspects of sensory science and its application.

Unit I: Concepts and Theories of Communication in Nutrition - Health, The Components and Processes of NHC

- Definitions of concepts
  - Formal - non-formal communication, Participatory communication
  - Theories of NHC
- History, need and relevance of NHC in India
- Concept of Behavior Change Communication (BCC) from imparting information to focusing on changing practices.
- Components of BCC: Sender, Message, Channel, Receiver
- Various types of communication - interpersonal, mass media, visual, verbal! non-verbal.
- Features of successful BCC
- Market Research and Social Marketing

Unit II: Programs and Experiences of NHC global and Indian perspective
- Nutrition - Health - Communication in Government Programs and NGOs

- NHC in developed and developing nations: some examples
  - Evolution of NHC in India: traditional folk media to modern methods of communication.
  - Traditional folk media in Gujarat and its influence on NHC.
  - Communication for urban and rural environment; for target specific audience.
  - Evolution of NHC/ IEC in Government nutrition health programs - shift in focus from knowledge gain to change in practices.
  - Overview of NHC/IEC in government programs (Activities, strengths and limitations) -
a. NHC in ICDS

b. Nutritional counseling in micronutrient deficiency control programs:
control of IDA, IDD, VAD.

• Strengths and limitations of NHC imparted in NGO programs

Text Book :

• Field guide to designing communication strategy, WHO publication-2007.


• Communication strategy to conserve/improve Public Health., John Hopkins University-


FPT-605 NUTRATION HEALTH COMMUNICATION (Practical)

(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

- To understand different aspects of sensory science and its application.

1. Visit to an ongoing NHC program in ICDS: one rural, one urban. (eg: *matru mandal* meeting or *mahila mandal* meeting or nutrition week celebration.
   Visit to a health centre (ANC clinic run by Government health department and observe quality of counseling imparted to pregnant women (especially awareness of anemia, importance of IFA). [All the above will be assessed by the students for the plus and minus points from the NHC perspective].

2. Visit to Mamta Day (one rural one urban) and observe quality of counseling being given to pregnant and lactating women, mothers of preschool children, use of Mamta card and other aspects.
   To visit an NGO either rural or urban and observe one NHC program implemented for women, school children or adolescence (For all the above observation appropriate observation check lists will be made and used)

3. Improving the NHC-To conduct brief interviews with service providers in all the above programs and to compare the observations, discuss the strength and weakness of the NHC activities carried out.
   Based on the above observations and interviews
   a. To design and plan NHC sessions on a specific nutrition topic for any vulnerable group: children, adolescents, women taking into account all components of NHC.
   b. Submit the visual, the script of the session: Hindi / Gujarati, the communication strategy and evaluation plan.
   c. To implement one NHC session in the field and evaluate it as per guidelines provided.
Objectives
- To acquaint various functional chemical constituents of food.
- To build a relationship between the dynamic forces of food and the dynamic forces of digestion and growth.

Unit 1 Introduction to food chemistry and carbohydrates (15 hrs)
Introduction to chemistry of foods composition and factors affecting foods, Chemistry of water, Water activity, Moisture determination, Definition, classification and function of carbohydrates, Properties of simple and complex carbohydrates (glucose, sucrose, maltose, lactose, starch, cellulose and pectic substances), Enzymes and its use in foods, Gel formation and starch degradation, Dextrinisation, Browning reactions – Enzymatic & Non-enzymatic browning

Unit 2 Vitamins, minerals and proteins (15 hrs)

Vitamins
Classification – Fat soluble and water soluble, Structure, Sources, Functions, Causes for losses of vitamins in foods, Bioavailability

Minerals
Classification, Sources, Functions of minerals in foods

Proteins
Classification, Physical and chemical properties of proteins and amino acids, Confirmation, Functional properties, Hydrolysis of proteins, Changes of proteins during processing

Text books:
Objectives

- To test the presence of carbohydrates and proteins in food samples.
- To estimate the nutrients in different food samples.

1. **Standardization of Solutions**
   - Standardization of Fehling’s solution.
   - Standardization of Sodium hydroxide with standard oxalic acid.

2. **Estimation of Sugar Solutions**
   - Estimation of Glucose by Lane and Eynon’s method.
   - Estimation of Sucrose by Lane and Eynon’s method.
   - Estimation of Aldose by Willstalter’s Iodometric titration
   - Estimation of starch.

3. **Estimation of Protein**
   - Kjeldhal method.
   - Biuret method
   - Lowry’s method

4. **Estimation of Vitamin.**
   - Estimation of vitamin C

5. **Qualitative Test**
   - Qualitative tests for carbohydrates
   - Qualitative tests for proteins.

**Text books:**


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ENG-601: 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
EC-601: Computer VI

(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)

HTML

1. समजताती - वेब पेज, वेब साइट, पोर्टल
2. वेब डिजाइन - HTML कार्यक्रमों परियोजना
3. टेज्स अन्ट में जनकी लक्षणिता आयाम
4. HTML डाकुवेलंड आदर्श - हेड अन्दे बॉडी टेग, HTML डाटामेंटमध्ये हॅकीज, पेडेसन, लेबल वेक, टॉपी जैन तुल,
5. क्लिक्स राउंडल: वेब, ऐडेटेड, अंडरलाइन
6. लिस्टस्कर पृष्ठ - ऑर्डर अन्दे अन्द्र ऑर्डर
7. लिस्टस्कर डाकुवेलंड: ऐडेटेड लिक्स अन्दे इंटरनल लीक्स
8. गैंडेक्स अन्दे ग्राहक, मल्टिमीडिया - साइट अन्दे विडियो
9. तेबल: कॉपिवाईट, टेबल रैं, टेबल डेटा, टेबल हॅडिंग, बॉर्डर, सेल स्पेलिंग अन्दे री स्प्लाइ, हॅल्ट स्प्लाइ, बेलाइज्मेंट
10. हॅर्ड अन्दे हॅर्ड नो परियोजना
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EC-101: ComputerVI (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)

Use of computer in Business – લબઝનવેપ્શમસાનું કમપમજટરિનપો ઉપરપોગ

1 Importance of Information મસાદહતતીનકનું મહતવ

2 Benefits of Computerised Information System, કમપમજટરિસાઈઝડિ ઈનનન્ફોરર્મેશન સસિસસ્ટરનન લનભન્ફો

3 System Concept and characteristics. સસિસસ્ટર કનસિનપસ્ટ અને લક્ષણન્ફો.

4 Reasons for Initiating Information Systems Project (5Cs)

5 Multimedia (મલટડીમમડિડીરસા) નપો પડરિચર

6 DeskTop Publish Software Paribad

નઓથ્ય ઓપરેટરીસ્ટ્રી સસિસસ્ટમ તરખે ubuntu-12.04

અલે ઓપરેટરીસ્ટ્રીસસસ્ટમ ટુલ્સ તરખે LibreOffice_4.2.1 - Base