Objectives
To deliver a sequence of steps to produce an acceptable and quality food product from raw materials.
Study of scientific and technological advancements in food processing.

Unit-1 Classification of Food and Fundamentals of Food Processing
Definition of food, classification of foods- based on origin, pH, nutritive value, functions of food, Health food, ethnic food, organic food, functional food, nutraceuticals, fabricated foods, convenience foods, GM food and space foods.

Unit-3 Post Harvest Management
Steps involved in converting a raw harvested food materials to a preserved product with sound quality- harvesting, storage, manufacturing, preservation, packaging, distribution and marketing. Chemical of enzymatic, physical and biological deterioration, implications and prevention

Text Books:
Objectives
To deliver a sequence of steps to produce an acceptable and quality food product from raw materials.
Study of scientific and technological advancements in food processing.

(1) Grouping of Food – Discussion on Nutritive Values.
(2) Techniques in measurements of Food Staff use of standard raring caps and spoons, wrights volume, relationships.
(3) Survey locally available foods and identify and find the cost of food staff.
(4) Find the edible and non edible portions of Food.
(5) Give the energy and protein value per 100 gm of food selecting from all food groups.
(6) Prepair the following food and its processing.
   (1) Ethnic food – Banana Products.
   (2) Mordern Food – Pasta Marconi
   (3) Tapioca Food
GUJARAT VIDYAPEETH : AHMEDABAD
M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar
Faculty of Science and Applied Science
Bachelor of Vocational (Food Processing Technology)
Semester-I
(In Force from June-2017)

FPT-102: Basic Principal of Food Preservation
(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 enable the students to acquire knowledge on different preservation techniques
used to enhance the shelf span of food product.
To study the different mode of spoilage in foods and minimize the contamination
by different preservation technology.

Unit-1 Food Spoilage, Basic Principles of Food Preservation
Food spoilage- definition, types of spoilage- physical, chemical and biological.
Definition, principles and importance of food preservation, general classification on
the methods of food preservation, class I and class II preservatives, combination of
preservatives, preservation by irradiation and fermentation.

Unit-2 Preservation by use of High, Low Temperature and Preservation by
Removal of Moisture
Pasteurization, sterilization, canning- history and steps involved, types of cans and
bottles. Spoilage encountered. Refrigeration- Advantages, mechanism of refrigeration
factors to be considered during chilling, difference between refrigeration and freezing,
methods of freezing, steps involved in freezing, types of freezing, common spoilage
during freezing

Text Books:
1. Subalakshmi, G and Udipi, S.A. Food processing and preservation. New Age
   1996.
4. Srivastava, R.PO and Kumar, S. Fruit and vegetable preservation, International
5. MC.Williams, M and Paine, H. Modern Food preservation. Surjeet Publications,
   Delhi, 1984.
6. Cruess, W.V. Commercial fruits and vegetable products, Anees Offset press, New
   Delhi.
Objectives

To enable the students to acquire knowledge on different preservation techniques used to enhance the shelf span of food product.
To study the different mode of spoilage in foods and minimize the contamination by different preservation technology.

(1) Prepare Following recipes.
   - Jam, Jellies
   - Tomato Ketchup and tomato Sauce.
   - Mango Pickle, Lime Pickle, Mixed Vegetable Pickle.
   - Crushes, Squashes and Syrups.
   - Papad, Dehydrated Vegetables.

(2) Food Spoilage : Find the properties Physical, Chemical, Biological

(3) Give the Irradiation, Fermentation.

(4) Preservation by High Temperature.
   - Sterilization
   - Canning
   - Bottles

(5) Preservation by Low Temperature.
   - Refrigeration.
   - Types of Freezing.

(6) Preservation of Food Samples arising humectants
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, Dextrinization, 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.

Textbooks:


GUJARAT VIDYAPEETH : AHMEDABAD  
M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar  
Faculty of Science and Applied Science  
Bachelor of Vocational (Food Processing Technology)  
Semester-I  
(In Force from June-2017)

FPT-104: Internship/Field Work (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)

- 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.
Objectives:

1. To read simple passages to find out information contained in it.
2. To familiarize students with vocabulary used in the passages.
3. To familiarize students with the functions of tenses generally used in daily life.
4. To help students in writing short descriptive paragraphs based on pictures.
5. To develop among students the academic skill of referencing.

Unit 1: Comprehension (Weightage – 40%) 12 Hours

1. The Kite Maker by Ruskin Bond
2. The Portrait of a Lady by Khushwant Singh
3. Print Advertisement – Admission Announcement
4. Print Advertisement – Sales Advertisement

Comprehension Pattern:

1. Short questions
2. Fill in the blanks
3. Multiple choice questions based on the text

NB: Short questions as well as other exercises should be informative in nature.

Unit 2: Vocabulary (Based on the text only) (Weightage – 10%) 2 Hours

1. Antonyms/Synonyms
2 Match words with their meanings

<table>
<thead>
<tr>
<th>Unit 3: Grammar (Weightage – 20%)</th>
<th>6 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun: Number and Gender</td>
<td></td>
</tr>
<tr>
<td>Articles</td>
<td></td>
</tr>
<tr>
<td>Simple Present Tense</td>
<td></td>
</tr>
<tr>
<td>Present Continuous Tense</td>
<td></td>
</tr>
<tr>
<td>Simple Past Tense</td>
<td></td>
</tr>
<tr>
<td>Past Continuous Tense</td>
<td></td>
</tr>
<tr>
<td>Subject-Verb Agreement</td>
<td></td>
</tr>
</tbody>
</table>

**NB:** Unit 3 should be done along with Unit 1 so that students can see how these grammatical categories actually work to produce meaning.

<table>
<thead>
<tr>
<th>Unit 4: Writing Skills (Weightage – 20%)</th>
<th>3 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Picture Reading (Use of Simple Present Tense and Present Continuous Tense)</td>
<td></td>
</tr>
</tbody>
</table>

**NB:** Use at least five pictures in the classroom for demonstration as well as practice.

<table>
<thead>
<tr>
<th>Unit 5: Academic Skills: Reference Skills (Weightage – 10%)</th>
<th>2 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of dictionaries</td>
<td></td>
</tr>
<tr>
<td>Functions of a dictionary</td>
<td></td>
</tr>
<tr>
<td>How to use a dictionary?</td>
<td></td>
</tr>
<tr>
<td>Optimum utilization of dictionary</td>
<td></td>
</tr>
<tr>
<td>Dictionary and pronunciation</td>
<td></td>
</tr>
<tr>
<td>How to use a thesaurus?</td>
<td></td>
</tr>
<tr>
<td>Online dictionaries and thesaurus</td>
<td></td>
</tr>
<tr>
<td>Inbuilt dictionaries in Word Processors</td>
<td></td>
</tr>
<tr>
<td>Mobile dictionaries</td>
<td></td>
</tr>
<tr>
<td>Guessing meaning from the context</td>
<td></td>
</tr>
</tbody>
</table>

**NB:** This unit is not to be asked in the examination.

| Seminar/Presentation | 5 Hours |
Reference :-


GUJARAT VIDYAPEETH : AHMEDABAD
M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar
Faculty of Science and Applied Science
Bachelor of Vocational (Food Processing Technology)
Semester-I
(In Force from June-2017)

FC-101: Gandhian Thought
(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)

<table>
<thead>
<tr>
<th>अध्याय १</th>
<th>मंगलपुरवाट</th>
<th>४ कलाक</th>
</tr>
</thead>
<tbody>
<tr>
<td>१.१ प्रत थेटेले भुं? प्रतनी आवश्यकता</td>
<td></td>
<td></td>
</tr>
<tr>
<td>१.२ ज्ञेनकेश प्रत</td>
<td></td>
<td></td>
</tr>
<tr>
<td>शाष्ट्र प्रत - यम: सत्य, अहिंसा, अस्तेश, बुधवर, अपरिलुक्त</td>
<td></td>
<td></td>
</tr>
<tr>
<td>अस्तेवानारी परिस्थिति प्रमाणे उपेतेला प्रती - नियम: अस्तेवात,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>सर्वधर्मसमावेश, जातमंडन, अन्य, अस्वप्नाता निवारण,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>स्वाभावक</td>
<td></td>
<td></td>
</tr>
<tr>
<td>१.३ ज्ञेनमाला प्रतनी महत्त्व</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>अध्याय २</th>
<th>रूपलांकन कार्यक्रम</th>
<th>९९ कलाक</th>
</tr>
</thead>
<tbody>
<tr>
<td>२.१ रूपलांकन कार्यक्रम गंवते भुं?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>२.२ रूपलांकन कार्यक्रमाची परिशुल्कता</td>
<td></td>
<td></td>
</tr>
<tr>
<td>२.३ भारी:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>भारीनॉ निलिस वेदानात अनेक अंदर यशस्वी परिशुल्क,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>भारीनॉ महत्त्व (श्रमनॉ जीवन, श्रीमती अनेक बेहदोनी जवाहरी,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>गामोधार माहे भारी, भारी अनेक पवित्राच, भारी अनेक आलोक)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>२.४ व्यसनमुक्ति</td>
<td></td>
<td></td>
</tr>
<tr>
<td>व्यसन गेटले भुं? व्यसनसाठी पुकार, व्यसनसाठी आसेज पर</td>
<td></td>
<td></td>
</tr>
<tr>
<td>आस, व्यसनसाठी सामाजिक आस</td>
<td></td>
<td></td>
</tr>
<tr>
<td>व्यसन मुक्तसाठी कार्यक्रमाची</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>अध्याय ३</th>
<th>आधारानी केलवणारी</th>
<th>४ कलाक</th>
</tr>
</thead>
<tbody>
<tr>
<td>३.१ आधारानी केलवणारी अनेक तेंतू महत्त्व</td>
<td></td>
<td></td>
</tr>
<tr>
<td>३.२ कुंतंबमुं समृद्धज्ञानी आधार</td>
<td></td>
<td></td>
</tr>
<tr>
<td>३.३ वैश्विक संस्थेनों समृद्धज्ञानी आधार</td>
<td></td>
<td></td>
</tr>
<tr>
<td>३.४ जाहेद स्वतःला रघु-रघुवान अनेक रघुवान</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.5 સામાન્ય વિષેણ

ચેકમ ૪ ઉચ્છ અને તેનું મહત્વ:

4.1 ઉચ્છ મેળવતો શું?
4.2 ઉચ્છ ના સ્વભાવ: વૈશ્લેષિક ઉચ્છ, િંદવ ઉચ્છ, સાચાદાહીક ઉચ્છ, ગુણચક્રિયકી ઉચ્છ, લક્ષણ ઉચ્છ, સીર ઉચ્છ, સ્થિર ઉચ્છ
4.3 ઉચ્છ ના સ્થાન: પુનરાવૃથ અને પુનરાભાવ ઉચ્છ સ્થાન
4.4 ઉચ્છ સભ્યતા અને ગાંધીજીના વિચાર
4.5 વિનાંકનપથરાજ ઉચ્છ્ના સાধનો: સૂર્યકુંડલ, સોલાર હિટર, સોલાર દ્વારાર, પાવનજળી વાહન, સીર તલાવ, સીરસાદીત, બાયોમાસ, બાયોમાસ વાહન
4.6 ઉચ્છ સંરક્ષણ

References:

1. સંપૂર્ણ જાનની આદાર, બધાલાસી મહેતા
2. આદોડાની સાંબી, ગાંધીજી
3. હૂડી લ માત્રે?, ગાંધીજી
4. સમયોગ તકાલી: પુનરાવૃથ ઉચ્છ, પાંચફી આદાતી, જેડા, વડોદરા.
5. મંડળપુલાવત - ગાંધીજી
6. રખનાંકન કારણોની આજીના સંદેશ્યનો - દરશયાત્રાત શાહ
7. રખનાંકન કારણો: તેનું રહ્યા અને સ્વાધ - ગાંધીજી
8. પરિબળપુલાવત સાથી- સમેશ સાબીલાય, CEE
9. ગાંધીજીના પાવન પ્રસંગો: લહ્કાલાસી મહેન્દ્ર રોઢાઈ
10. "પૂણ નહી રહેવાય" (લોસ્ટોય ના નિમન્તણોનો અલુથ) લિખાયા, વાયાન પ્રકાશન મિડિર, આમદાબાદ
GUJARAT VIDYAPEETH : AHMEDABAD
M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar
Faculty of Science and Applied Science
Bachelor of Vocational (Food Processing Technology)
Semester-I
(In Force from June-2017)

FC-102: Environmental Study

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

एकम १ पर्यावरण नौ परिप्रेक्ष्य

(ए) पर्यावरण: पर्यावरण अोंटे जू? पर्यावरणाच्या प्रकृती:
लैक्टिक पर्यावरण, जीविक पर्यावरण, सामाजिके संस्थान पर्यावरण,
नियंत्रण पर्यावरण, नियंत्रणाच्या विविध विविधता, जीवनमंडळ, असाइज
जीवनमंडळ, जीवनमंडळ.

(ब) परिस्थितीत विविधता: परिस्थितीत तंत्र, परिस्थितीत तंत्र नियम,
परिस्थितीत तंत्र वैज्ञानिक, परिस्थितीत तंत्र वैज्ञानिकी विनिर्देश:
वहनकल्पना, विज्ञानसंस्थान, विज्ञानकल्प, विनिर्देश पत्र:
चार दस्त, संपूर्ण निर्देश, संपूर्ण निर्देश, उल्लेख निर्देश.

(भ) परिस्थितीत तंत्र धातु: वर्णिक धातु, जीविक धातु, परिस्थितीत
tंत्र नॉर्म अंतर्गत: संकेतण, प्रशासक

एकम २ पर्यावरण नॉर्म अंतर्गत: अनेक संकेतण

(ए) पर्यावरणसूची समस्यामारे: पर्यावरणाच्या पृष्ठ, समस्यामारे,
पर्यावरण संकेतण परियोजना: वात परियोजना, लिंक परियोजना,
राजकीय बंटवाडा कार्य आयोजन, सामाजिक
परियोजना: लेट, रामसर वेतनही रास्ते, श्रीमत विविध.

(भ) सहाय्य वन व्यवस्था, सामाजिक वनीकरण, वीमकट आंदोलन,
पृष्ठीय शिक्षण संमेलन, जेफिया २९, एटी विकास अंतर्गत विशेष
तुळ्णा संमेलन

एकम ३ कृत्रिम प्रकृती: जल अने हवा

(ए) जल: जलानु-महत्त्वाचे, पाणीाची गुणधर्माचे, पाणीाच्या लोनाचे:
जमीनमाले, रहेत पाणीाची वर्गीकरण, बुद्धाचे जलसाधनांची संस्थापन, लक्ष्य
પાણી, શુંક પાણી, જીવિક ઘોરણો, ધરમા પીવાની પાણી શુંક શમાણની સામ્યતા સીટી, પાણી અને ઍનો, ગુજરાતની નિષ્ણાં, ગુજરાતમાં સિંચાઈ, ગુજરાતમાં પાણીના સમસ્યાની આરામ્ણુ વપરાં પ્રમાણ, પીવાના પાણીની ઉપરાં પ્રમાણ, સુગારે જળની વેપાર, પીવાના પાણીની વેપાર, કલ પુષ્પાં, પાણીની સંચાવણા સંદર્ભથી

(બ) હવા: હવામાં મહત્તા, વાતાવરણ, વાતાવરણનું વંધારણ, વાતાવરણની રથ રખતા, વાતાવરણનું મહત્ત, આલોચના અને હવામાન, વાતાવરણનું હવાશ, પવન અને તેના પડાર્શ, પાણીનું, હવાની વિશિષ્ટતાએ જ, મેચ અને હવાની સંબંધ, હવા પુષ્પાં, વોલીમેટેર મેરા અને તેની પાંખીવાર પર અસર, હવા પુષ્પાં અટકશેના ઉપાયો.

Reference:
1. પર્યાપ્ત સાધી
2. પર્યાપ્ત અધયાય (પર્યાપ્ત અધયાયના અધયાયનું ભાષણાત્મક સ્વરૂપ) - ઓ.એ.પ્યા
GUJARAT VIDYAPEETH : AHMEDABAD
M.D. Gramseva Sankul, Sadra, Dist: Gandhinagar
Faculty of Science and Applied Science
Bachelor of Vocational (Food Processing Technology)
Semester-I
(In Force from June-2017)

FC-101: Environmental Study (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)

1. ग्रहातील शिक्षण विषयात फायदेशीर कार्य डिवड वर्क/ प्राइडो, उर्जा तथा जीवन संदर्भात
   सर्वोत्तम / प्रोजेक्ट वर्क प्रेरणा कराव्यांनी आयोजी.

2. प्राणीतील पृष्ठभूमी

3. प्राणवक (Planton) कलेक्शन पद्व्युत

4. स्टडी टूर