

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**

**BACHELOR OF VOCATIONAL (B.Voc.) PROGRAMME  
FOOD PROCESSING AND QUALITY CONTROL**

**SYLLABUS**

(Effective from the academic year 2016 – 2017)

**BAKERY AND DAIRY TECHNOLOGY**

**CODE:16VF/VM/BD26**

**CREDITS: 6**

**L T P: 3 0 3**

**TOTAL TEACHING HOURS: 78**

**OBJECTIVES OF THE COURSE**

- To develop skills in various baking procedures
- To have working knowledge of equipment needed for baking
- To learn the physical, chemical and Constituents of Milk and their significance in quality control
- To understand the technology of dairy products and bakery products

**Unit 1 (6hrs.)**

**Composition of Milk**

- 1.1 Physical, Chemical and Microbial Properties of Milk
- 1.2 Test for Quality Control in Milk (Practicals)
- 1.3 Lactometer, Methylene blue reduction test, Resazurin test, Phosphatase test, Stormy clot test and Estimation of Specific Gravity and Acidity of Milk

**Unit 2 (10hrs.)**

**Preservation Techniques in Milk**

- 2.1 Chilling Methods
- 2.2 Pasteurization, Sterilization, Homogenization, Standardization and grading and Packaging of Milk
- 2.3 Cleaning and Sanitization Structure and layout of Dairy industry and Dairy effluent treatment
- 2.4 Manufacture and Probiotics of Dairy Products-Butter, Ghee, Cheese-Cheddar, Cottage Cheese, Yoghurt and Curd and their use in baking

**Unit 3 (12hrs.)**

**Introduction to Baking**

- 3.1 Principles of Baking, Baking Oven types
- 3.2 Bread Making: Procedures for Bread Making, Types of Bread
- 3.3 Common Defect in Bread Making and Bread Improvers
- 3.4 Maintenance of Sanitation and Hygiene in Bakery unit

**Unit 4** (12hrs.)

**Composition of Bread**

- 4.1 Leavening Agents Definition, Role of Water in Baking
- 4.2 Physical, Chemical and Biological Leavening Agents
- 4.3 Wheat flour, Fats and Sugar:-Types and their in Baking

**Unit 5** (16hrs.)

**Confectionary (Theory and Practical)**

- 5.1 Cakes , Biscuits and Cookies – Ingredients, Types and Preparation
- 5.2 Pastries:-Confectionery Fats, Icings and Glazings
- 5.3 Gums, Pectin and Gelatin in Confectionary
- 5.4 Chocolate Confectionary

**Practicals**

- 5.5 Baking Different Types of Cakes, Biscuits, Pastries and Bread
- 5.6 Preparation of Sandwich and Fondant
- 5.7 Baking of Pizza Base
- 5.8 Preparation of Chocolates

(22hrs.)

**TEXT BOOKS**

Aantakrishnan. C.P. Khan. A.Q. and P.N. Padmnabhan. *The Technology of Milk Processing*. India: Shrilaksmi Publication, 1993

Catherine Atkinson. *Chocolate*, U. K.: Star Fire, 2003

**BOOKS FOR REFERENCE**

Catherine Atkinson. *Breads*, U.K.: Star Fire, 2003

Hatcher Jo. *Cooking on Bread Line*, New York: Thomson Publication, 1977

Hinde Cecilia H. *Your Book of Breadmaking*, London: Faber and Faber, 1983

**PATTERN OF EVALUATION**

**Continuous Assessment : 25 Marks**

**End Semester Examination (Total 100 marks will be converted to 75 marks)**

Theory :50 Marks

Practical :50 Marks

Total Marks: 100

Duration: 5 hours

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**

**BACHELOR OF VOCATIONAL (B.Voc.) PROGRAMME  
FOOD PROCESSING AND QUALITY CONTROL**

**SYLLABUS**

(Effective from the academic year 2016 – 2017)

**BASIC PRINCIPLES OF FOOD PROCESSING AND PRESERVATION**

**CODE:16VF/VM/PP26**

**CREDITS: 6**

**L T P: 3 0 3**

**TOTAL TEACHING HOURS: 78**

**OBJECTIVES OF THE COURSE**

- To provide an understanding of the Physical and Chemical Principles involved in Food Processing
- To gain knowledge in Preservation Technologies and Quality Control

**Unit 1 (10hrs.)**

**Introduction**

- 1.1 Food deterioration : Causes and Consequences,
- 1.2 Scope and Importance of Food Processing
- 1.3 Historical Development in Food Processing.

**Unit 2 (15hrs.)**

**Principles of Food Preservation (Theory and Practical)**

- 2.1 Preservation and Processing by heat. Effect of heat on Microorganisms, Thermal death time and Canning Procedure
- 2.2 Preservation and Processing by Cold and Chill Storage – Types of Cold Preservation, air circulation and humidity and Modified Atmosphere.
- 2.3 Preservation and Processing by drying – Methods and Advantages of drying.

**Unit 3 (15hrs.)**

**Processing Techniques (Theory and Practical)**

- 3.1 Cereal Millets – in baking industry: different methods of making dough on quality of Indian brads
- 3.2 Pulses and Wheat - Study of development of gluten in fermented doughs
- 3.3 Nuts – Effect of roasting of nuts and oil seeds
- 3.4 Eggs – Role of egg white and yolk for different bakery products

**Unit 4 (15hrs.)**

**High Protein Technology (Theory and Practical)**

- 4.1 Extruded food – Principle and Process

- 4.2 Texturized Vegetable Protein
- 4.3 Extracted Soya bean Protein
- 4.4 Fermented products of Soya bean – Soya sauce

**Unit 5 (10hrs.)**

**Novel methods of Preservation using ionizing radiation**

- 5.1 Kinds of radiation and their application in food processing
- 5.2 Cryogenic and instant freezing
- 5.3 Effects and Safety of Food Irradiation

**Visit to Food Processing Units and Preparation of Food Products (13hrs.)**

**TEXT BOOKS**

Sivasankar. B. *Food Processing and Preservation*. New Delhi: Prentice-Hall of India Pvt., Ltd., 2005

Subbulakshmi. G. and A. Shobha. *Food Processing and Preservation*. New Delhi: New Age International Pvt., Ltd., 2008

**BOOKS FOR REFERENCE**

Banwart. George. J. *Basic Food Microbiology*, New Delhi: CBS Publications, 1987

Jay. James. M. *Modern Food Microbiology, Edition 3*, New Delhi: CBS Publishers, 1987

Kulshrestha. S.K. *Food Preservation*, New Delhi: Vikas Publishing House, 1994

Muller. H.G. *Nutrition and Food Processing*, India: Avi. Publishers, 1998

Norman. N. Potter. *Food Science*, New Delhi: CBS Publishers and Distributors, 2004

Scemetra. R. *Food Science and Nutrition*, New Delhi: Oxford University Press, 2007

**PATTERN OF EVALUATION**

**Continuous Assessment : 25 Marks**

**End Semester Examination (Total 100 marks will be converted to 75 marks)**

Theory :50 Marks

Practical :50 Marks

Total Marks: 100

Duration: 5 hours

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**

**BACHELOR OF VOCATIONAL (B.Voc.) PROGRAMME  
FOOD PROCESSING AND QUALITY CONTROL**

**SYLLABUS**

(Effective from the academic year 2016 – 2017)

**PRINCIPLES OF BASIC NUTRITION**

**CODE:16VF/VA/PN25**

**CREDITS: 5**

**L T P: 5 0 0**

**TOTAL TEACHING HOURS: 65**

**OBJECTIVES OF THE COURSE**

- To equip students on the usage of food guide
- To give an introduction about the various nutrients, their nutritional value, functions and storage

**Unit 1 (12hrs.)**

**Introduction to Basic Nutrition**

- 1.1 Introduction to Nutrition – Definition of Nutrition and Nutrients, interrelationship between Nutrition and Health
- 1.2 Food Guide – Basic food groups, usage of the food guide
- 1.3 Role of Water in Nutrition

**Unit 2 (15hrs.)**

**Classification and Nutritive Value of Foods**

- 2.1 Classification of foods – Energy Yielding, Body building, Protection and Regulation, and Maintenance foods
- 2.2 Nutritive Value of Cereals, Pulses and Oil
- 2.3 Nutritive Value of Meats, Chicken, Seafood and Milk, (Probiotics)
- 2.4 Nutritive Value of Vegetables and Fruits
- 2.5 Traditional food additives (spices and condiments)

**Unit 3 (15hrs.)**

**Macronutrients – Carbohydrates, Proteins and Fats**

- 3.1 Carbohydrates – Source, functions Normal levels and digestion and Absorption, RDA
- 3.2 Proteins – Sources, Daily Requirement, Functions, Essential Amino Acids, Digestion and Absorption, RDA
- 3.3 Fats – Sources, Daily Requirement, Functions, Essential Fatty Acids, Digestion and Absorption, RDA

- 3.4 Balance Diet – Guidelines for Healthy Eating, Calculation of Energy and Percentage of Macronutrients in Foods

**Unit 4 (12hrs.)**

**Micronutrients – Minerals**

- 4.1 Sources, Functions, bio-availability of Calcium, Iron, Iodine, Fluorine, Sodium, Potassium (elementary treatment)
- 4.2 Effect of Deficiencies of the above minerals, their symptoms and remedial measures

**Unit 5 (11hrs.)**

**Vitamins**

- 5.1 Vitamins – Classification, Sources, Functions (elementary treatment) of the following vitamins:  
Fat soluble vitamins - A, D, E & K  
Water soluble vitamins - Ascorbic Acid, Thiamine, Riboflavin, Niacin
- 5.2 Effect of deficiencies of the above vitamins and their symptoms, vitaminosis
- 5.3 Effect of cooking on vitamins

**Field Visit / Workshop**

**TEXT BOOK**

Swaminathan. M. *Advanced Textbook on Food and Nutrition*. (Vol I and II), Bangalore: Printing and Publishing Co. Ltd. 2015

**BOOKS FOR REFERENCE**

Bamji MS. Rao NA. & Reddy V. *Textbook of Human Nutrition*, Oxford & IBH, 2003

Norman. N. Potter. *Food Science*, New Delhi: CBS Publishers and Distributors, 2004

Seema Yadav. *Principles of Basic Nutrition*. India: Anmol Publishers, 1998

Swaminathan. M. *Handbook of Food and Nutrition*. Bangalore: Bangalore Printing and Publishing, 2012

**PATTERN OF EVALUATION**

**Continuous Assessment : 25 Marks**

**End Semester Examination (Total 100 marks will be converted to 75 marks)**

Total Marks: 100

Duration: 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

**BACHELOR OF VOCATIONAL (B.Voc.) PROGRAMME  
FOOD PROCESSING AND QUALITY CONTROL**

**SYLLABUS**

(Effective from the academic year 2016 – 2017)

**BANKING PRACTICES**

**CODE: 16CM/UE/BP22**

**CREDITS: 2**

**L T P: 2 0 0**

**TOTAL TEACHING HOURS: 26**

**OBJECTIVES OF THE COURSE**

- To expose students to a variety of financial services available to meet the dynamic changes in the economy and the diverse requirements of the investors
- To provide an opportunity to understand the significance of banking and financial services

**Unit 1 (6hrs.)**

**Customers' Accounts with the Bank**

- 1.1 Opening of Bank Accounts
- 1.2 Different Types of Bank Accounts
- 1.3 Documents Relating to Transactions with Bank
- 1.4 Closing of Bank Accounts

**Unit 2 (8hrs.)**

**E- Banking**

- 2.1 Meaning and Importance.
- 2.2 Credit Card, Debit Card, Smart Card
- 2.3 Internet Banking – Services and Major Issues
- 2.4 ATM – Concept, Features and Importance
- 2.5 Mobile Banking and Telebanking

**Unit 3 (12hrs.)**

**Negotiable Instruments**

- 3.1 Meaning, Characteristics
- 3.2 Types of Negotiable Instruments
  - 3.2.1 Cheque – Requirement of a Cheque
  - 3.2.2 Post-dated Cheque, Stale Cheque, Ante-dated Cheque
  - 3.2.3 Crossing- Meaning, Types and Significance
  - 3.2.4 Endorsement- Types and Significance

**BOOKS FOR STUDY**

Gurusamy S. *Banking Theory Law and Practice*. 2<sup>nd</sup> ed. Chennai: Vijay Nicole, 2012.

Sundharam K.P.M. and P.N Varshney. *Banking Theory Law and Practice*. 18<sup>th</sup> ed. New Delhi: Sultan Chand, 2012.

### **BOOKS FOR REFERENCE**

Bihari, SC. *E-Banking*. 1<sup>st</sup> ed. SkyLark, 2007.

Gordon E. and K.Natarajan. *Banking Theory Law and Practice*. 19<sup>th</sup> ed. Mumbai: Himalaya, 2012.

Gordon E., Natarajan K. *Emerging Scenario in Financial Services*. Mumbai: Himalaya, 2006.

Rajesh R., T. Sivagnanasithi. *Banking Theory Law and Practice*. New Delhi: Mc Graw Hill, 2009.

Taxmann. *Guide To Negotiable Instruments Act*. Taxmann, 2003.

### **JOURNALS**

Journal of Banking and Finance  
Banking and Financial Services – The Business Journals  
International Journal on Electronic Banking

### **WEB RESOURCES**

[www.academia.edu](http://www.academia.edu)  
[www.lawhandbook.sa.gov](http://www.lawhandbook.sa.gov)

### **PATTERN OF EVALUATION**

Continuous Assessment: (Totally internal)

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**

**DEPARTMENT OF VALUE EDUCATION**  
**Courses Offered to the Students of**  
**Bachelor of Vocational Programme**

**SYLLABUS**

(Effective from the academic year 2016 – 2017)

**RESPONSIBLE CITIZENSHIP AND PEACE INITIATIVES**

**CODE: 16UV/ET/CP22**

**CREDITS: 2**

**L T P: 2 0 0**

**TOTAL TEACHING HOURS: 26**

**OBJECTIVES OF THE COURSE**

- To give the students a deeper understanding of the reality and diversity of Indian Society
- To inculcate in them the values of Unity, Harmony and Peace in a multi - cultural and multi - religious society

**EXPECTED OUTCOME**

An appreciation of India in all its richness and to be agents of Unity and Peace

**Unit 1**

**Responsible Citizenship**

**(8 hrs.)**

- 1.1 Significance of Being Humane, Compassionate and Just
- 1.2 Societal Analysis
- 1.3 Socio-Economic- Political Context of India - Multi-Party System
- 1.4 Basic Understanding of the Indian Constitution – Preamble- Fundamental Rights -Rights and Duties of an Indian Citizen

**Unit 2**

**Religious and Cultural Diversity of India**

**(8 hrs.)**

- 2.1 Basic Tenets of Different Religions in India
- 2.2 Threats to Religious and Cultural Diversity –Religious Intolerance
- 2.3 State and Language Barriers
- 2.4 Realities of Casteism and Communalism

**Unit 3**

**Peace Initiatives**

**(10 hrs.)**

- 3.1 UNO and World Peace Initiatives
- 3.2 Factors Threatening Peace
- 3.3 Religions and Peace
- 3.4 Gandhi and Principles of Peace
- 3.5 Nobel Peace Laureates
- 3.6 Instruments of Peace - St. Francis of Assisi

## **Teaching / Learning Methods**

- Lectures
- group discussions
- paper presentations
- power point presentations
- Seminars
- role plays
- case studies
- debates
- documentaries and video clippings

## **Workshop – Peace Maker – Mahatma Gandhi and St. Francis of Assisi and Interfaith Prayer**

### **BOOKS FOR REFERENCE**

Amaladoss, Michael. *Living in a Secular Democracy, Conflict and Community among Religions.*

India: Vaigarai, 2010.

Davidar(Eds). *Human Values.* New Delhi: All India Association of Christian Higher Education ( AIACHE), 2013.

James, G.M.et.al. *Life Issues and Coping Strategies.* Chennai: Loyola College, 2010.

James, G.M.et.al. *Social Awareness.* Chennai: Loyola College, 2009.

Koikara, Felix. *Heal The World.* Mumbai: Better Yourself Books, 2002.

Salesians of Don Bosco. *Beyond the Barriers.* Chennai: Deepagam, 2002.

Salesians of Don Bosco. *Born Free Live Free.* Bangalore: Kristu Jyothi,1985.

Suri, Sudesh ed. *Global Education Conference on Culture Of Peace and Non-Violence.*

*Jalandhar, 2002.*

Spindler Louise. *Culture Change and Modernization.* New York: Winston Publication, 1983.

Kanitkar Sathis. *Culture and Human Rights,* New Delhi: Rajput, 2000.

### **PATTERN OF EVALUATION**

Continuous Assessment: (Totally internal)