

MANNAR THIRUMALAI NAICKER COLLEGE

(Autonomous)

Community College Courses

Diploma in Food Processing and Quality Management

PROGRAMME SPECIFIC OUTCOMES

PSO1: To describe and analyze the principles of food processing design and production techniques.

PSO2: To analyze and communicate issues relevant to food processing technology and food quality management systems.

PSO3: To work and practice as Dairy product processor.

PSO4: To work as a dairy processing operator in various Dairy industry.

MannarThirumalaiNaickerCollege(Autonomous)

Madurai- 4

I. Programme : **Diploma in Food Processing and Quality Management**

II. Sector Skill council : Food Processing Sector Skill Council

III. Selected Job roles : (i) **Dairy Product Processor**
(ii) Dairy Processing Equipment Operator

IV. Eligibility Criteria : 12th Pass, No age limit.

V. Industrial Partners List : (i) Jayaram Bakery
(ii) Raja Milk

VI. Teaching Methods : Lecture with Charts/ models/ chalkboard
Role Play
Demonstration cum Lecture
Group Discussion
Power Point presentation
You tube Video Presentation

VII. Methods of Evaluation

Theory : Objective Test, Class Test, Oral Presentation, Quiz, Assignment
Practical : Assessment, Case Note, Case Presentation, Survey Report, Training Industry Report, Assignment for Hi-Tech Instruments
Internship : Evaluation form, Case Study/ Project work, Viva

VIII. Examination Pattern :

Internal Exam : Internal Test - 20 Marks
Practicals : Assignment / Seminar /
Oral Presentation / Practical Test /
Record - 20 Marks

Total 40 Marks

Summative Exam : Multiples Choice Question 15x1=15marks

Short Answers 3x5 =15 marks
 Essay 3x10=30 marks

Total 60 marks

INTERNSHIP ASSESSMENT

(Req. Max: Formative: 60 marks, Summative:40 marks)

Formative Evaluation (Industrial Partner)

- Evaluation Form (60 marks)

Applicat ion of Knowle dge	Care for Tools& Equipm ent	Econo mic use of Materi al	Safety Conscious ness	Spe ed	Accur acy	Quality of Workman ship	Amo unt of Work	Numb er of Attem pts	Attitu de

Rating Scale: Excellent- 6; Very Good- 5; Good- 4; Fair- 3; Satisfactory -2;Poor-1.

Summative Evaluation (Course Teacher)

- Case Study/ Project (20 marks)
- Viva (20 marks)

Course Profile

Diploma in Food Processing and Quality Management

Sl. No	Sem	Category	Course Code	Course Title	No. of Hours/Week		No. of Credits	
					T	P	T	P
1	I	Part – I General Education	18DSWG11	Life Skills	4	-	4	-
2			18DENG11	Communicative English	4	-	4	-
3			18DCSG11	Fundamentals of Information Technology	4	-	4	-
			Total		12	-	12	-
4		Part – II Skill component	18DFQS11	Introduction to Food Science	4	2	4	2
5			18DFQS12	Food Quality Control And Management Lab	2	4	2	4
6	18DFQS13		Milk and Milk Products Lab	2	4	2	4	
		Total		8	10	8	10	
1	II	Part – I General Education	18DSWG21	Professional Skills	4	-	4	-
2			18DENG21	Professional English	4	-	4	-
3			18DFQG21	Food Preservation	4	-	4	-
			Total		12	-	12	-
4		Part – II Skill component	18DFQS21	Technology of Dairy Products Lab	2	4	2	4
5			18DFQS22	Skill Development in Food Preparation Lab	2	4	2	4
6	18DFQS23		Internship	-	6	-	6	
		Total		4	14	4	14	
		Grand Total		36	24	36	24	

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class	: Community College Courses	Part I	: GE
Semester	: I	Hours	: 04
Subject Code	: 18DSWG11	Credits	: 04

LIFE SKILLS

COURSE OUTCOME

On successful completion of this course, the students will be able to

CO1: understand concepts, meaning, definitions & fundamentals of life skills.

CO2: provide them a thorough grounding in the basics of the subject

CO3: develop and articulate respect for the diversity of talents, ways of knowing and learning

UNIT I: Introduction to life Skills

Introduction to life Skills and Importance – Personality – Definition – Traits – SWOT

UNIT II: Concept of Self

Concept of Self: Self Image / Identity / Self Esteem – Factors Affecting Self Esteem – High / Low Esteem – Attitude Building – Meaning – Elements – Factors Affecting Attitude

UNIT III: Interpersonal Skills

Interpersonal Skills: Meaning – Elements – Factors Affecting Interpersonal Skills – Need for Interpersonal Skills

UNIT IV: Thinking

Thinking: Meaning – Types – Creative – Reasoning – Techniques.

UNIT V: Emotions

Emotions: Definition – Characteristics – Types – Emotional Intelligence – Etiquettes – Grooming – Making Positive Impressions.

TEXT BOOK:

1. Alphonse Xavier S.J., *We Shall Overcome – A Text Book on Life Coping Skills*, ICRDCE Publications, Chennai: March 2004.

REFERENCE BOOKS:

1. RavikanthRao. K. *Life Skills Education*, 2016
2. Anderson, J. *The Perceptions of Students, Teachers, and Parents Regarding the Value of the LIFE SKILLS and Lifelong Guidelines Program. Unpublished PhD Dissertation:* East Tennessee State University, 2005.
3. Assaly, I. *A content analysis of the reading and listening activities in the EFL textbook of master class.* Education Journal ,2014.
4. Shiv Khera, *You Can Win*, Macmillan India Ltd: New Delhi: 1998.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)

Madurai – 04

Class	: Community College Courses	Part I	: GE
Semester	: I	Hours	: 04
Subject code	: 18DENG11	Credits	: 04

COMMUNICATIVE ENGLISH

COURSE OUTCOME

On successful completion of this course, the students will be able to

CO1: Acquire the basic language skills.

CO2: Speak and write without mistake

CO3: Develop confidence in their voice

UNIT I : LISTENING SKILL

Basic Listening Skills - Listening to Radio and Television - Listening to Talks and Presentations – Tips for Effective Listening

UNIT II : SPEAKING SKILL

Basic Speaking Skills – Steps to Speak Easy – Formal and Informal Conversation– Describing pictures and people

UNIT III : READING SKILL

Importance of Reading - Levels of Reading - Techniques of Reading – Reading Comprehension.

UNIT IV : WRITING SKILL

Sentence - Phrase, Clause - Construction of Paragraph - Linkage and Cohesion

UNIT V : GRAMMAR AND USAGE

Kinds of Sentences - Parts of Sentence - Parts of Speech - Types of Sentences

REFERENCE

Material will be supplied by the Department of English

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class	:Community College Courses	Part I	: GE
Semester	: I	Hours	: 04
Subject Code	: 18DCSG11	Credits	: 04

FUNDAMENTALS OF INFORMATION TECHNOLOGY

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking.

CO2: Identify and analyze computer hardware, software, and network components.

CO3: Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills.

UNIT I: INTRODUCTION TO COMPUTER SYSTEMS

Introduction to Computers: Introduction – Importance of Computers – Characteristics of Computers – Classification of Computers – Uses of Computers Five Generations of Modern Computers: Introduction – First Generation Computers – Second Generation Computers – Third Generation Computers – Fourth Generation Computers – Fifth Generation Computers classification of Digital Computer Systems: Introduction – Microcomputers – Minicomputers – Mainframes – Supercomputers – Network Computers. Anatomy of a Digital Computer: Introduction - Parts of a Computer.

UNIT II : CENTRAL PROCESSING UNIT, MEMORY, INPUT AND OUTPUT DEVICES

Central Processing Unit (CPU) and Memory: Introduction – Central Processing Unit (CPU) – Memory – Memory Organization – Random Access Memory (RAM) Read Only Memory (ROM) – Registers – Factors Affecting Processor Speed – Instruction Set – Machine Cycle –Working of CPU and Memory. Input Devices: Introduction – Keyboard – Mouse – Trackball – Game Controllers – Scanners – Barcode Reader – Card Reader – Digitizer – Voice Recognition – Webcams – Digital Cameras Video Cameras (Camcorders) – Optical Character Recognition (OCR) – Optical Mark Recognition (OMR) – Intelligent Character Recognition (ICR) – Magnetic Ink Character Recognition (MICR) Output Devices: Introduction – Monitor – Printer –

Plotter – Multimedia Projector – Speech Synthesizers – Sound Cards and Speakers – Dumb, Smart and Intelligent Terminals.

UNIT III : PROGRAMMING LANGUAGES AND OPERATING SYSTEMS

Programming Languages: Introduction – Machine Languages – Assembly Languages – High- Level Languages – Types of High-Level Languages – Compilers and Interpreters – Compilation Process. Operating Systems: Introduction – Functions of an Operating System – Classification of Operating Systems.

UNIT IV: DATABASE MANAGEMENT SYSTEMS AND COMPUTER NETWORKS

Introduction to Database Management Systems: Introduction – Information – Data and Data Management – Database Systems – Organization of Database – Characteristics of Data in a Database – Database Management Systems – Functions of DBMS – Database Users. Computer Networks: Introduction – Overview of a Network – Communications Processors – Communications Media – Telecommunications Software – Types of Networks – Network Topology – Network Protocols – Network Architecture.

UNIT V: INTERNET, WORLD WIDE WEB AND ELECTRONIC MAIL

Internet & World Wide Web: Introduction – What is Special about the Internet? – Internet Access – Internet Basics – Internet Protocols – Internet Addressing – World Wide Web (WWW) – Web Pages and HTML – Web Browsers – Searching the Web – Internet chat. Overview of Electronic Mail: Introduction – How E-mail works? – Why Use E- mail? – E-Mail – Names and Addresses – Mailing Basics.

LIST OF PRACTICAL

1)MS -WORD

1. Preparing a news Letter
2. Designing your Bio-Data
3. Creating and editing the table
4. Create Mail Merge
5. Advertisement Designing

2)MS -EXCEL

1. Operating on the sheets
2. Using formulas and functions
3. Perform Student's Mark Statement
4. Display Score Boards using Pie Charts

5. Display Sales Analysis using Bar Charts

3)MS -ACCESS

1. Create an Employee Table
2. Create a Stock Table and insert 10 records
3. Create Student Mark List
4. Generating Queries in Access

4)MS -POWERPOINT

1. Creating a new presentation based on template
2. Displaying College Details
3. Displaying Advertisement Presentation

TEXTBOOKS:

1. Alexis Leon and Mathews Leon *Fundamentals of Information Technology*, L & L Consultancy Pvt. Ltd., 1999, Second Edition.

Unit I – Chapters 1, 2, 3, 4

Unit II – Chapters 7, 9, 10

Unit III – Chapters 13, 14

Unit IV – Chapters 16, 21

Unit V – Chapters 24, 25

REFERENCE BOOKS:

1. Rajaraman Neeharika Adabala .V., *Fundamentals of Computers* PHI Learning Private Limited, Delhi, 2015, Sixth Edition.
2. Sarkar .S.K., A.K.Gupta, *Elements of Computer Science* S.Chand & Company LTD, Delhi ,Second Edition, 2002
3. Balagurusamy .E., *Fundamentals of Computing and Programming Updated*, First Edition Tata McGraw Hill Education PVT LTD, 2010.
4. <https://en.wikipedia.org>
5. <https://bosslinux.in/sites/default/files/BOSS4.0-Usermanual.pdf> (For EduBOSS3.0)
6. <https://wiki.openoffice.org/wiki/Documentation>

7. <http://windows.microsoft.com/en-in/windows/windows-basics-all-topics>

**MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04**

Class : Diploma (Food Processing and Quality Management)	Part II	:Skill
Semester : I	Hours	: 06
Subject code : 18DFQS11	Credits	: 06

INTRODUCTION TO FOOD SCIENCE

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: enable the students to understand the science behind the processing and preparation of food products.

CO2: describe the importance of various foods and their nutritive value.

CO3: enlighten the students about the various methods of cooking

UNIT I: Introduction to Food Science

Food Science: Definition, Scope of studying food science– Basic five food groups; Food Pyramid and Balanced diet– Cooking : Definition, Course Outcome of cooking–Cooking methods: Moist heat and Dry heat methods, advantages and disadvantages.

UNIT II: Cereals and Millets

Composition and nutritive value of cereals–Structure of wheat and Rice– cereal products – wheat, rice, fermented and unfermented products. Millets–Nutritive value and composition–Role of cereals in cookery.

UNIT III: Pulses and Nuts–Oilseeds

Composition and nutritive value of pulses–Factors affecting cooking quality of pulses– Pulse products – role of pulses in cookery– Nuts and Oilseeds– Composition and nutritive value–Role of oilseeds in cookery.

UNIT IV: Vegetables and Fruits

Classification, composition and nutritive value of vegetables, and fruits–Concept of maturity, ripening, changes during ripening, post–Harvest changes in fruits, vegetables – Maturation, changes in maturation, pigments in fruits & vegetables– Role of fruits and vegetables in cookery.

UNIT V:Meat, Fish and Egg

Structure, composition and nutritive value of egg–Uses of egg in cookery–structure and composition of meat–Types of meat–Post mortem changes in meat–Methods of cooking meat–Classification and composition of poultry–Processing of poultry–Selection and nutritive value of fish–Methods of preservation of fish.

LIST OF PRACTICALS:

- Weights and measures of raw and cooked food.
- Preparation of product by Gelatinization
- Preparation of product by Dextrinization
- Preparation of product by Germinated pulses
- Preparation of nuts based dishes.
- Preparation of product by green leafy vegetable
- Preparation of product by roots and tuber
- Preparation of product by fruits.

TEXT BOOK:

- Srilakshmi, B, *Food Science*, New Age International Private Limited Publishers, New Delhi;,1997.

REFERENCE BOOKS:

- Mudambi, R.S. and Rajagopal, M.Y. *Fundamentals of Food and Nutrition*, Wiley Eastern Limited: New Delhi ,1991.
- Swaminathan, M., *Food Science and Experimental Foods*, Ganesh and Company, Madras ,1988.
- Mudambi, R.S. and Rao. S, *Food Science*, Wiley Eastern Limited, New Delhi ,1987.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class : Diploma (Food Processing and Quality Management)	Part II	:Skill
Semester : I	Hours.	: 06
Subject code :18DFQS12	Credits	: 06

FOOD QUALITY CONTROL AND MANAGEMENT LAB

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: understand concept of sampling and quality of the foods.

CO2: study the working of equipment's for quality control of food product.

CO3: learn various quality standards and testing methods

UNIT-I: Introduction to quality control

General concepts of quality and quality control– Major quality control functions– Sampling of food–Sample selection and sampling plans–Preparation and storage of laboratory samples–Sampling methods.

UNIT-II: Food Adulteration

Definition, Adulterants –Classification of adulterants– Harmful effects of adulterants– Methods of detection of adulterants

UNIT-III: Standard tests for quality assessment

Physical test–Chemical tests–Microbiological test–Sensory analysis.

UNIT-IV: National food legislation

Essential commodities Act – Standard of weight and measures Act – Export act – BIS,- Agmark- FSSAI - FPO Concept and application of ISO and HACCP.

UNIT-V: Overview of food spoilage

Bacterial and fungal food spoilage– Food poisoning–Food born infection–Milk spoilage– Preventions of milk and milk products spoilage.

LIST OF PRACTICALS:

- Sampling of food
- Adulteration of milk
- Adulteration of milk products
- Determination of fat content of milk

- Determination of protein in milk
- Sensory evaluation of food products
- Determination of Total plate count
- Determination of Hygiene–SWAB methods and effectiveness of cleaning
- Sensory evaluation of food products

TEXT BOOK:

- David. A. Shapton, Naroh. F. Shapton, *Principles and Practises for the Safe Processing of Foods*, Butterworth–Heineman Ltd, Oxford. OX 2 8 Dp,London 1991.

REFERENCE BOOKS:

- Manay, S. and Shadaksharamasamy, *Food: Facts and Principles*. **New Delhi 2005**
- Sara mora more Carol wallaPPce, *HACCP. A Practical Approach* Chapman and Hall,Maryland 1997.
- Potter, N. *Food Science*, CBS Publishes & Distributes. New Delhi ,1996.
- Rekha.S. Singhtal, Pushpa, R. Gulgarni, *Hand book of indices of food quality and authenticity*. **England** FSSAI Act–2006 &2011

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)

Madurai – 04

Class : Diploma (Food Processing and Quality Management)	Part II	:Skill
Semester : I	Hours	: 06
Subject code : 18DFQS13	Credits	: 06

MILK AND MILK PRODUCTS LAB

Course Outcomes

On successful completion of this course, the students will be able to

CO1: acquire knowledge of Milk composition and different adulteration.

CO2: enlighten processing methods of market milk.

CO3: acquire the knowledge of platform and organoleptic test.

Unit I: Status of Dairy industry in INDIA

Introduction to white revolution– Importance of dairy industry– Opportunities of employment in the Dairy industry.

Unit–II: Composition of milk

Definition of milk–Physio chemical properties of milk–Collection of raw milk–Method of sampling of raw milk.

Unit–III: Platform test

Quality of raw milk–Adulteration of milk–Principle and methods of milk processing– FSSAI standards of milk and milk products.

Unit–IV: Market milk

Standards– Reconstituted milk–Condensed milk–Flavoured milk–UHT milk

Unit–V: Cleaning in Place

Definition of CIP–Advantages of CIP–Washing–Sanitizer–Types of detergents– Characteristics of detergents–Factor affecting washing

LIST OF PRACTICALS:

- Physical examination of milk
- Acidity test
- Organoleptic test
- Alcohol test,
- COB test

- Condensed milk
- Flavoured milk
- Visit to cooperative dairy units
- Visit to private dairy units
- Visit to private chilling centres

TEXT BOOK:

- Aneja.R.P, B.N Mathur, R.C Chandra and A.K. Banerjee, *Technology of Indian Milk and Milk Products*, Dairy India Publication New Delhi 2002.

REFERENCE BOOKS:

- Sukumar De, *Outlines of Dairy Technology*, Oxford University Press, New Delhi ,1980.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class	:Community College Courses	Part I	: GE
Semester	: II	Hours	: 04
Subject Code	: 18DSWG21	Credits	: 04

PROFESSIONAL SKILLS

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: acquire skills to manage time and to recognize the importance of motivation and goal setting

CO2: understand concepts, meaning of social skills and its importance

CO3: apply workplace etiquettes and preparing for the job.

UNIT I:Goal Setting

Goal Setting: Definition – SMART Principle – Difficulties in Goal Setting – Process and Types.

UNIT II: Leadership Skills

Leadership Skills: Styles of Leadership – Transactional and Transformational – Johari Window – Methods and Techniques of Developing Interpersonal Skills.

UNIT: III: Time Management

Time Management: Meaning – Importance – Obstacles in Managing – Steps for Effective Time Management – Stress – Meaning – Types – Factors Causing Stress – Coping Mechanisms.

UNIT IV: Management and Planning

Management and Planning: Meaning – Principles – Practices–Functions – Types of Plans – Steps in Planning

UNIT V:Strategic Planning

Strategic Planning: Development Mapping – Sustainability – Commercial Viability – Market Analysis.

TEXT BOOK:

1. Alphonse Xavier S.J., *We Shall Overcome – A Text Book on Life Coping Skills*, ICRDCE Publications, Chennai: March 2004.

REFERENCE BOOKS:

1. Leonard S.Genry ., *Journal of Extension*,(October, 2006), **Study of life skill development** of Oklahoma 4-H alumni during the years Of 4-H participation 1969-1998.
2. Thomas A. Smith ., *Journal of Extension* ,April, 2005,**Evaluating a youth leadership life skills development program..**
3. Bhatia .H. S., *Art of Interview* ,19th Edition, 2013,

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class	:Community College Courses	Part I	: GE
Semester	: II	Hours	: 04
Subject code	: 18DENG21	Credits	: 04

PROFESSIONAL ENGLISH

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: Expand their vocabulary

CO2: Become effective communicators

CO3: Acquire the career skills

Unit I : WORKING WITH WORDS

Vocabulary – Spelling and Pronunciation – Punctuation

Unit II : SPEECH PRACTICE

Short speeches on topics of day to day - Speaking for Life and Work – Group Discussion

Unit III : ACADEMIC CORRESPONDENCE

Academic Letter Writing - Report Writing -Proposal Writing

Unit IV : GRAMMAR AND USAGE

Transformation of Sentences (Affirmative into Negative) – Framing Questions – Tag Questions

Unit V : CAREER SKILLS

Applying for Job - Covering Letter - Resume and Effective Profiling – Interviews

REFERENCE

Material will be supplied by the Department of English

**MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04**

Class : Diploma (Food Processing and Quality Management)	Part II	:GE
Semester : II	Hours	: 04
Subject code : 18DFQG21	Credits	: 04

FOOD PRESERVATION

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: acquire knowledge of food preservation and preservation technique.

CO2: know the importance and basic principles of food preservation

CO3: develop the knowledge in skillful and profitable fruits and vegetables

Unit–I:Introduction to food preservation

Concept, importance of food preservation–Principles of preservation –Preservation technique.

Unit–II: Preservation by drying

Concept, history–Types of drying and dryers–Treatments prior to drying.

Unit–III: Preservation by use of high temperature

Concept and importance–Various methods used–pasteurization, boiling, canning–effect of high temperature on food.

Unit–IV: Preservation by low temperature

Concept, history–types of preservation methods by low temperature–different equipments used for preservation by low temperature–treatment prior to freezing. Storage of various food products.

Unit–V:Fruit beverages

Squashes, syrups, nectars, ready to serve (RTS), crushes, cordial etc. Technology of carbonated soft drinks. Carbonation of soft drink.

LIST OF PRACTICALS:

- 2Preparation of squash
- Preparation of jam.
- Preparation of jelly
- Preparation of pickle
- Preparation of cakes
- Preparation of khoa
- Preparation of food product by drying
 - i) Onion flakes
 - ii) Papad and chips
- Visit to Food manufacturing unit

TEXT BOOK:

- PrakashTriveni :*Food Preservation*, Aadi Publication, Delhi. 2010

REFERENCE BOOK:

- M. ShafiurRahman :*Hand Book of Food Preservation*, Marcel Dekker Inc, New york.2007.
- McWillims and Paine :*Modern Food Preservation*, Surjeet Publication.1977.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class : Diploma (Food Processing and Quality Management)	Part II	:Skill
Semester : II	Hours.	: 06
Subject code : 18DFQS21	Credits	: 06

TECHNOLOGY OF DAIRY PRODUCTS LAB

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: acquire knowledge of Milk and Milk products processing.

CO2: study the working of equipments used in milk and milk products processing.

CO3: expand to the knowledge for preparation of different milk products

Unit– I:Processing of milk

Pasteurization –Methods of Pasteurization–Homogenization–Sterilization– Factors affecting processed and homogenized milk.

Unit–II: Cream

Definition–Composition–Different types of cream–Methods of preparation–Uses.

Unit–III: Butter

Definition–Composition – Different methods of butter preparation–Uses.

Unit–IV: Ice-cream

Definition–Composition –Different methods of ice cream preparation– Factors affecting ice cream–Storage and uses.

Unit–V:Milk products

Dahi – Lassi – Butter milk – Paneer – Khoa–Food and nutritive value.

LIST OF PRACTICALS:

- Preparation of cream
- Preparation of Ice cream
- Preparation of butter
- Preparation of curd
- Preparation of lassi
- Preparation of Khoa
- Preparation of paneer

- Preparation of gulabjamun

TEXT BOOK:

- Aneja.R.P, B.N Mathur, R.C Chandra and A.K. Banerjee, *Technology of Indian Milk and Milk Products*, Dairy India Publication New Delhi 2002.

REFERENCE BOOKS:

- Priyadarshinivihar *Dairy India year book*, Laxmi nagar, Delhi 110092, India 2007.
- Sukumar De, *Outlines of Dairy Technology*, Oxford University Press, New Delhi ,1980.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)
Madurai – 04

Class : Diploma (Food Processing and Quality Management)	Part II	:Skill
Semester : II	Hours.	: 06
Subject code :18DFQS22	Credits	: 06

SKILL DEVELOPMENT IN FOOD PREPARATION LAB

COURSE OUTCOMES

On successful completion of this course, the students will be able to

CO1: develop the basic food preparation.

CO2: understand the principles of preservation in food preparation.

CO3: develop entrepreneurial skills.

UNIT-I: Introduction to the Health mix

Raw material –Preparation methods – Nutritional values – Storage methods.

UNIT-II: Flavored milk

Definition –Types of flavored milk –Raw materials–Production methods –Storage and dispatch.

UNIT-III:Vegetable cutlet

Definition – Preparation of vegetable methods–Types of cutlet.

UNIT-IV: Soups

Introduction – Types of soups–Preparation of mushroom soups–Nutritive value.

UNIT-V: Product Price fixing

Definition – Product marketing – Income and expenditure detail of any one products (Cost of production).

LIST OF PRACTICALS:

- Health mix
- Flavored milk
- Vegetable cutlet
- Mushroom soups
- Sprouted grains salad
- Preparation of idly powder

- Preparation of coconut barfi

TEXT BOOK:

- Aneja.R.P, B.N Mathur, R.C Chandra and A.K. Banerjee, *Technology of Indian Milk and Milk Products*, Dairy India Publication, New Delhi 2002.

REFERENCE BOOKS:

- Sukumar De, *Outlines of Dairy Technology*, Oxford University Press, New Delhi ,1980.
- Srilakshmi, B, *Food Science*, New Age International Private Limited Publishers, New Delhi; 1997.

MANNAR THIRUMALAI NAICKER COLLEGE (Autonomous)

Madurai – 04

Class : Diploma (Food Processing and Quality Management)

Part II : Skill

Semester :II

Hours : 06

Subject code :18DFQS23

Credits : 06

INTERNSHIP

INTERNSHIP ASSESSMENT

(Req. Max: Formative: 60 marks, Summative: 40 marks)

Formative Evaluation (Industrial Partner)

- Evaluation Form (60 marks)

Applicat ion of Knowle dge	Care for Tools& Equipm ent	Econo mic use of Materi al	Safety Conscious ness	Spe ed	Accur acy	Quality of Workman ship	Amo unt of Work	Numb er of Attem pts	Attitu de

Rating Scale: Excellent- 6; Very Good-5; Good- 4; Fair- 3; Satisfactory-2;Poor -1.

Summative Evaluation (Course Teacher)

- Case Study/ Project (20 marks)
- Viva (20 marks)

