SHIVAJI UNIVERSITY, KOLHAPUR. BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT (B.F.T.M.) (NON CONVENTIONAL VOCATIONAL COURSES FOR WOMEN)

APPENDIX – 'A'

Three years Degree course in Food Technology & Management affiliated to Shivaji University, Kolhapur. This Course is full time course.

ELIGIBILITY AND ADMISSION PROCEDURE:

- H.S.C. (10+2) of Maharashtra state board or equivalent with Science/students who have passed three years Diploma course in any branch of engineering /Technology from Govt. approved institution with English as medium of instruction. shall be given admission to the Semester –I of first year BFTM
- The students who have passed three years Diploma in Food Technology (10+3) from Govt. approved institution with English as medium of instruction shall be given admission directly to the Semester –III of second year BFTM

COURSE STRUCTURE	
BFTM – I (SEMESTER – I)	

SR.	SUBJECTS	TOTA	AL MAR	KS	WORKLO	DAD/TOTAL
NO.					PERIODS	S PER
					WEEK	
		Ext.	Int.	Pr.	Theory	Practical
1.	Communication and Soft	50	-	-	4	-
	Skills – I					
2.	Introduction to Food	50	-	-	4	-
	Science – I					
3.	Principles of Food	50	-	-	4	-
	Preparation & Preservation					
	-I					
4.	Human Physiology – I	50	-	-	4	4
5.	Food Chemistry – I	50	-	-	4	4
6.	Fundamentals of Food	50	-	-	4	4
	Microbiology – I					
7.	Introduction to computer –	50	-	-	4	4
	I					
8.	Market Survey (Food	-	50	-	-	4
	groups)					
	Total Marks	350	50	-		
	Total Workload				28	20
	Grand Total		400			48

COURSE STRUCTURE

SR.	SUBJECTS	TOTA	AL MAR	KS	WORKLO	DAD/TOTAL
NO.					PERIODS	S PER
					WEEK	•
		Ext.	Int.	Pr.	Theory	Practical
1.	Communication and Soft	50	-	-	4	-
	Skills – II					
2.	Introduction to Food	50	-	-	4	-
	Science – II					
3.	Principles of Food	50	-	-	4	-
	Preparation & Preservation					
	- II					
4.	Human Physiology – II	50	-	50	4	4
5.	Food Chemistry – II	50	-	50	4	4
6.	Fundamentals of Food	50	-	50	4	4
	Microbiology – II					
7.	Introduction to computer –	50	-	50	4	4
	II					
8.	Seminar	-	50	-	-	4
	Total Marks	350	50	200		
	Total Workload				28	20
	Grand Total	600			48	

BFTM – I (SEMESTER –II)

COURSE STRUCTURE BFTM –I I (SEMESTER –III)

SR. NO.	SUBJECTS	TOTAL MARKS			WORKLOAD/TOTAL PERIODS PER	
		Theor	у	Pr.	WEEK	
		Ext.	Int.		Theory	Practical
1.	Human Nutrition – I	40	10	-	4	4
2.	Cereal, Legume and	40	10	-	4	4
	Oilseed Technology – I					
3.	Analytical Techniques – I	40	10	-	4	4
4.	Food Biochemistry – I	40	10	-	4	-
5.	Food Microbiology – I	40	10	-	4	-
6.	Dairy Technology – I	40	10	-	4	4
7.	Agribusiness Management	40	10	-	4	-
	- I					
8.	Market Survey (Processed	-	50	-	-	4
	Foods)					
	Total Marks	280	120	-		
	Total Workload				28	20
	Grand Total	400			48	

COURSE STRUCTURE BFTM –II (SEMESTER – IV)

SR. NO.	SUBJECTS	TOTAL MARKS			WORKLOAD/TOTAL PERIODS PER	
		Theor	У	Pr.	WEEK	
		Ext.	Int.		Theory	Practical
1.	Human Nutrition – II	40	10	50	4	4
2.	Cereal, Legume and	40	10	50	4	4
	Oilseed Technology – II					
3.	Analytical Techniques – II	40	10	50	4	4
4.	Food Biochemistry – II	40	10	-	4	-
5.	Food Microbiology – II	40	10	-	4	-
6.	Dairy Technology – II	40	10	50	4	4
7.	Agribusiness Management	40	10	-	4	-
	– II					
8.	Seminar	-	50	-	-	4
	Total Marks	280	120	200		
	Total Workload				28	20
	Grand Total	600			48	

COURSE STRUCTURE BFTM –III (SEMESTER – V)

SR. NO	SUBJECTS	TOTAL MARKS			WORKLO	DAD/TOTAL
110.		Theor	у	Pr.	WEEK	
		Ext.	Int.		Theory	Practical
1.	Therapeutic Nutrition – I	40	10	-	4	4
2.	Bakery and Confectionery – I	40	10	-	4	4
3.	Animal Product Technology – I	40	10	-	4	-
4.	Processing and Preservation of Fruits and Vegetables - I	40	10	-	4	4
5.	Food Quality, Safety and Waste Management - I	40	10	-	4	-
6.	Community Nutrition- I	40	10	-	4	-
7.	Industrial and Business Management - I	40	10	-	4	-
8.	Market Survey (Functional Foods)	-	50	-	-	4
9.	Project	-	-	-		4
	Total Marks	280	120			
	Total Workload				28	20
	Grand Total		400		48	

COURSE STRUCTURE BFTM – III (SEMESTER – VI)

SR. NO.	SUBJECTS	TOTAL MARKS			WORKLO PERIODS	DAD/TOTAL PER
		Theor	У	Pr.	WEEK	
		Ext.	Int.		Theory	Practical
1.	Therapeutic Nutrition – II	40	10	50	4	4
2.	Bakery and Confectionery – II	40	10	50	4	4
3.	Animal Product Technology – II	40	10	-	4	-
4.	Processing and Preservation of Fruits and Vegetables - II	40	10	50	4	4
5.	Food Quality, Safety and Waste Management - II	40	10	-	4	-
6.	Community Nutrition – II	40	10	-	4	-
7.	Industrial and Business Management - II	40	10	-	4	-
8.	Seminar and Inplant Training Report	-	100	-	-	4
9.	Project	-	-	100		4
	Total Marks	280	170	250		
	Total Workload				28	20
	Grand Total		700		48	

APPENDIX C: STANDARD OF PASSING

- 1] A candidate must obtain minimum 40% of the marks in each university head, internals, practical, and project.
- 2] There will be separate head of passing for university head, internals, practical, and project.
- 3] a) The Candidates obtaining 50% but less than 60% marks in the final year examination be declared to have passed the B.F.T.M. examination in Second Class.
 - b) Those obtaining 60% but less than 70% marks in the final Year shall be declared to have passed the B.F.T.M. examination in FIRST CLASS.
 - c) Those obtaining 70% or above in the final Year shall be declared to have passed the B.F.T.M. examination in FIRST CLASS with distinction.
- 4] A candidate who pass in at least TEN papers of the B.F.T.M. Part-I (Sem.-I & II) examination shall be allowed to keep terms for B.F.T.M. Part-II (Sem.-III & IV)
- 5] A candidate who pass in at least TEN papers of the B.F.T.M. Part-II (Sem.-III & IV) & have cleared first year B.F.T.M.I examination shall be allowed to keep terms for B.F.T.M. Part-III (Sem.-V & VI).
- 6] B.F.T.M. degree will be awarded on the basis of total marks of final year (B.F.T.M. Part-III) examination and as per point -3 a, b, c.
- 7] If a candidate fail or remain absent in semester I, semester III & semester- V examination then she will be allowed to perform for the next higher semester

APPENDIX 'D'

PREFACE

Objectives of this course are –

1. To increase the employability of women in the food processing sector of Indian Economy which has been accorded priority in policy making.

2 . To expose the participants to the basic essentials of food technology & preservation

so that they become capable of independently handling food processing units.

3. To make them understand the nutritional sides which may help inoculate the scientific

view regarding dietary habits of population.

4. To enable the participants to keep themselves at least of recent changes in Food Technology & Management

5. To appreciate the management & marketing perspective of food processing industry.

6. Finally to cerate necessary awareness regarding the factors affecting food processing

& preservation.

7. The need for qualified nutrition expert is very important, as he/she understand the importance of nutrition & its relation to health .

INTAKE AND MIGRATION:

The sanctioned intake of the candidates at the First Year level shall not exceed a maximum of 60 candidates in a class. If more than 60 candidates are admitted, separate classes shall be organized.

COURSE AND PERIOD OF STUDIES:

- The Institutions imparting instructions in Food Technology & Management may follow the lectures & the periods of studies as prescribed in Appendix 'A' & 'B'.
- The Institution shall, as an integral part of Food Technology & Management education curriculum & as a part of teaching programme arrange for study tours, & other project facilities.

APPENDIX 'E' TEACHING STAFF STRUCTURES

- As prescribed by UGC norms.
- The number of core faculty is sanctioned by Shivaji University.
- Workload details as per norms of UGC
- Qualification for the post of Lecturer Master Degree in relevant subject with B+ Grade

PROFESSIONAL EXAMINATION:

1. The University or an independent Examining Body shall conduct the examination at the end of Semester.

2. Internals

BFTM- I: - There will be market survey of 50 marks in first semester & seminar of 50 marks in second semester.

BFTM- II: - There will be one mid term test of 10 marks each. (Based on Objective type / multiple choice based questions) in third & fourth semester. There will be market survey of 50 marks in third semester & seminar of 50 marks in fourth semester.

BFTM- III: - There will be one seminar / project / tutorial of 10 marks each in Fifth & sixth semester. There will be market survey of 50 marks in fifth semester & seminar of 50 marks in sixth semester.

1. The University practical examination will be at the end of the year.

FIRST YEAR (SEMESTER I)

SUBJECT-COMMUNICATION SKILL – PAPER - I

- 1. Communication process, barriers changing dimensions
- 2. Report writing, types, formats & methods.
- 3. Essentials of letter writing, types and format.
- 4. Technology based communication -email -web-mobile- telephones, Internet,

Netiquettes, Social networks, Net behavior.

References:-

- 1. Write better, speak better (Reader's digest Publication)
- 2. Building your Vocabulary John G. Gilmartin
- 3. Instant Vocabulary Gopal K. Puri.
- 4. Contemporary English Grammer, Structure & Composition. David Green (Macmillan & Co Ltd.)
- 5. Tiger's Eye Alan Mc Connell Duff. (Oxford University Press)
- 6. J. D. O. Connor UBS Better English Pronunciation.
- Dianna Booher Ewriting 21st century Tools for effective communication pocket books. Sinon & Schuster inc. JSBN – O 7434- 1258-3
- 8. Ashi Hi Ingragi (Marathi) Prof. N. D. Apte Rajhans Prakashan Pune.
- 9. Osborn Michael/ Osborn Suzane. Public Speaking, Biztantra, New Delhi.
- 10. Durodula Sahrolyn P. Learn Reading- Anmol Publications Pvt. Ltd., New Delhi.
- 11. Narula Uma, Business Communication Practices- Modern Trends, Atlantic Publishing House, Mumbai.
- 12. Kumar Keval. J, Mass Communication In India, Jaico Publishing House, Mumbai.
- 13. Information and Communication Technology by Abdul Mannan Himalaya Publishing House, Mumbai.

FIRST YEAR (SEMESTER I)

SUBJECT- INTRODUCTION TO FOOD SCIENCE - PAPER - I

UNIT 1: Introduction to food science Cereals- structure, composition, storage and important cereals

UNIT 2: Pulses Composition, Toxic Constituents of pulses and their elimination

UNIT 3:Nuts Composition Important Nuts

UNIT 4: Oils and Fats Nutritional value Functions of Fats and oils in Foods

References :-

- 1 Food Facts & Principles N. Shakuntala Manay, M. Shadaksharswamy
- 2 Food Science Sumati R. Mudambi, Shalini M. Rao, M.V.Rajagopal
- 3 Essentials of Food Science Vickie A. Vaclavik, Elizabeth W. Chrishtian

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT FIRST YEAR (SEMESTER – I)

SUBJECT: PRINCIPLES OF FOOD PREPARATION AND PRESERVATION – PAPER-I

Unit 1: Introduction to Subject

Cooking of foods- Objectives, Methods, Cooking Media

Unit 2: Food Deterioration

Microbial Spoilage, Food enzymes, insects, parasites, rodents and other factors such as temperature, moisture, oxygen, light and time

Unit 3: Methods of food preservation by heat

Effect of heat on microorganisms, thermal death time, canning, pasteurization

Unit 4: Preservation by cold

Effect of cold on microorganisms, types of cold preservation

References:

- 1. Food Science By Potter
- 2. Food Science By B. Shrilakshmi
- 3. Food Facts and Principles By Shakuntala Manay
- 4. Food Processing and Preservation By G. Subbulakshmi, Shobha A Udipi
- 5. Food Processing Technology 2nd edition By P.J.Fellows

FIRST YEAR(SEMESTER I)

SUBJECT- HUMAN PHYSIOLOGY – PAPER-I

THEORY-

1.	Cells, Tissues & Organization of body,
	Structures & functions of cell
	Types of Tissues, different systems of body
	Axial Skeleton
	Appendicular Skeleton
	Cavities of the body
2.	Blood
	Composition of blood, functions of Blood
	ABO & Rh Blood group system
	Haemostasis
	Lymphatic system
3.	Cardiovascular system
	Structure & functions of Heart, types of blood circulation
	Cardiac cycle
	Heart Rate, cardiac output
	Determination of Blood Pressure and factors affecting it
4.	Respiratory System
	Organs of respiratory system & their functions
	Mechanism of respiration
	External respiration
	Internal respiration
	Lung Volumes & capacities

References :-

- 1 Human physiology by Chatterjee vol I/ II
- 2 Textbook of Medical physiology A.C. Guyton
- 3 Concise medical physiology Sujit Choudhari
- 4 Basic clinical physiology- J.H. Green
- 5 Ross & Wilson's Anatomy & Physiology in Health & illness-Anne Waugh& Allison Grant
- 6 Physiology Vijaya Joshi

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT

FIRST YEAR (SEMESTER I)

SUBJECT- HUMAN PHYSIOLOGY

PRACTICAL

- 1] Study of Microscope
- 2] Collection of Blood
- 3] Hemoglobin estimation
- 4] Determination of Total WBC Count
- 5] Determination of Blood Group
- 6] Determination of ESR

FIRST YEAR (SEMESTER I) SUBJECT- FOOD CHEMISTRY – PAPER- IV

THEORY:

1. Carbohydrates

Definition, sources, classification- monosaccharides, reactions of monosaccharides, oligosaccharides, polysaccharides- starch, dextrins, cellulose, hemicellulose, pectin, gums, biological role

2. Lipids

Definition, sources, fatty acids- structure, properties, types, classification of lipids, reactions of lipids, tests to check purity of oils, biological role

3. Proteins

Definition, sources, amino acids, structure and classification of amino acids, classification of proteins, structure of proteins, biological value of proteins and biological role of proteins

4. Vitamins

Definition, fat soluble vitamins-Vit. A, D, E and K, Water soluble vitamins – B Complex Vitamins and Vitamin C Sources, daily requirement, functions, deficiency disorders

References:

- 1. Biochemistry Dr. U. Satyanarayan
- 2. Textbook of Biochemistry Albert Lehninger
- 3. Food Facts & Principles N. Shakuntala Manay, M. Shadaksharswamy
- 4. Food Science Sumati R. Mudambi, Shalini M. Rao, M.V.Rajagopal
- 5. Essentials of Food Science Vickie A. Vaclavik, Elizabeth W. Chrishtian
- 6. Food chemistry I By Fennama O. R.
- 7. Food & Nutrition By Swaminathan
- 8. Food science By Potter.

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT

FIRST YEAR (SEMESTER I)

SUBJECT- FOOD CHEMISTRY – PAPER- IV

PRACTICAL

1] Browning in fruits And Vegetables

2] Effects of heat on fruits & vegetables

3] Testing pectin strength in fruit & vegetable extracts.

4] Natural acidity of milk

5] Isolation of starch

6] Isolation of casein

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT FIRST YEAR (SEMESTER I) SUBJECT – FOOD MICROBIOLOGY –Paper- I

Unit No 1: History and Scope of Microbiology

Important contributions of various scientists, Scope of microbiology, Introduction to types of microorganisms, bacteria, algae, fungi, protozoa and viruses.

Unit No 2: General Characteristics of Microorganisms

Morphology of bacteria: Size, Shape and Arrangements, Cytology of bacteria, structure of typical bacterial cell, structure & functions of: cell wall, cell membrane, capsules & slime layer, flagella, Pilli, nuclear material, mesosome and ribosome.

Unit No 3: Microbial Nutrition

Nutritional requirements of microorganisms, nutritional types of microorganisms based on carbon & energy sources.

Unit No 4: Sterilization

Physical & chemical methods of sterlisation.

References:

Textbook of Microbiology (6th edition) by Ananthnarayan & C K J Paniker Basic Food Microbiology by George J. Banwart Food Microbiology by M R Adams and M O Mos Industrial microbiology L.E.Casida A textbook of Biotechnology by R.C.Dubey

FIRST YEAR (SEMESTER I)

SUBJECT- FOOD MICROBIOLOGY

PRACTICAL

- 1. Introduction to Laboratory Equipments
- 2. Study of Compound Microscope
- 3. Sterilization of glasswares

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT

FIRST YEAR (SEMESTER I) -

SUBJECT- INTRODUCTION TO COMPUTER- PAPER- I

Unit-1: Introduction to Computer: Definition of Computer, Characteristics of Computer, Evolution of computer, Generations of Computer, Concept of Hardware and Software.

Unit-2: Structure and Working of Computer: Block diagram of computer, Functions and Importance of CPU, ALU, Memory Unit, Basic Operations of Computer.

Unit-3: Input/Output Devices: Input devices - Keyboard, Mouse, Scanner, MICR, OMR Output devices - Monitor, Printers – DOT Matrix, Inkjet, and Laser jet.

Unit-4: Computer Memory: Memory Concept, Memory Cell, Memory Organisation, Semiconductor memories - RAM, ROM, PROM, EPROM, Secondary storage devices-Magnetic tape, Magnetic disk (floppy disk & hard disk), Compact disk.

References:

- 1. Fundaments of Computers V. Rajaraman
- 2. Computer Fundamentals by P. K. Sinha & Priti Sinha, 4th edition, BPB publication.

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT

FIRST YEAR (SEMESTER I)

SUBJECT- INTRODUCTION TO COMPUTER

PRACTICAL

MS-Word:

- 1. Creating and saving a document.
- 2. Formatting a document.
- 3. Use of bullets and Numbering utility
- 4. Use of borders and Shading utility.
- 5. Inserting the header and footer.
- 6. Inserting and formatting the pictures,
- 7. Inserting and formatting the Wordart,
- 8. Inserting and formatting the tables
- 9. Use of mail-merge utility

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT

FIRST YEAR (SEMESTER II)

SUBJECT-COMMUNICATION SKILL – PAPER- II

1. Oral communication speech seminar, group discussion, web cast.

2. Public communication, speech ,presentation ,video-conferencing

- 3. Interviews -essentials of effective interviews techniques and types.
- 4. Ethical communication, counseling communication, diet counseling

References :-

- 1. Write better, speak better (Reader's digest Publication)
- 2. Building your Vocabulary John G. Gilmartin
- 3. Instant Vocabulary Gopal K. Puri.
- 4 . Contemporary English Grammer, Structure & Composition. David Green (Macmillan & Co Ltd.)
- 5. Tiger's Eye Alan Mc Connell Duff. (Oxford University Press)
- 6. D. O. Connor UBS Better English Pronunciation.
- 7. Dianna Booher Ewriting 21st century
- 8 Tools for effective communication pocket books. Sinon & Schuster inc. JSBN – O 7434- 1258-3
- 9. Ashi Hi Ingragi (Marathi) Prof. N. D. Apte Rajhans Prakashan Pune.
- 10.Osborn Michael/ Osborn Suzane. Public Speaking, Biztantra, New Delhi.
- 11.Durodula Sahrolyn P. Learn Reading- Anmol Publications Pvt. Ltd., New Delhi
- 12. Narula Uma, Business Communication Practices- Modern Trends, Atlantic Publishing House, Mumbai.
- 13 . Kumar Keval. J, Mass Communication In India, Jaico Publishing House, Mumbai.
- 14 . Information and Communication Technology by Abdul Mannan Himalaya Publishing House, Mumbai.

FIRST YEAR (SEMESTER I)

SUBJECT- INTRODUCTION TO FOOD SCIENCE - PAPER - II

UNIT 1: Fruits

Composition and Nutritive value Ripening of fruits Storage of fruits Types of fruits

UNIT 2: Vegetables

Classification Composition and Nutritive value Salads

UNIT 3: Spices

Composition, Major Spices Minor spices Flavoring extracts

UNIT 4: Beverages Composition and functions Tea, coffee, cocoa, soft drinks, fruit beverages Alcoholic beverages

<u>References</u> :-

- 1. Food Facts & Principles N. Shakuntala Manay, M. Shadaksharswamy
- 2. Food Science Sumati R. Mudambi, Shalini M. Rao, M.V.Rajagopal
- 3. Essentials of Food Science Vickie A. Vaclavik, Elizabeth W. Chrishtian
- 4. Food Science Shri Laxmi

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT FIRST YEAR (SEMESTER – II) SUBJECT: PRINCIPLES OF FOOD PREPARATION AND PRESERVATION – PAPER-II

Unit 1: Preservation by drying

Methods and advantages

Unit 2: Preservation by radiation

Types of radiation, radiation dose, mode of action and uses of radiation

Unit 3: Recent Methods of Food Preservation

Dielectric heating, ohmic heating, infrared heating, pulsed electric field processing, high pressure processing, processing using ultrasound

Unit 4: Food Sanitation and Hygiene

Prevention of food contamination, good sanitation practices

References:

- 1. Food Science By Potter
- 2. Food Science By B. Shrilakshmi
- 3. Food, Facts and Principles By Shakuntala Manay
- 4. Food Processing and Preservation By G. Subbulakshmi, Shobha A Udipi
- 5. Food Processing Technology 2nd edition By P.J.Fellows

FIRST YEAR (SEMESTER II)

SUBJECT- HUMAN PHYSIOLOGY- PAPER- II

1. Digestive System

Organs of Digestive system & their functions Digestive glands Absorption of digested food

2. Urinary System

Organs of Urinary system & their functions Normal & Abnormal constituents of urine

3 Nervous system

Organs of Nervous system & their functions Peripheral Nervous system Autonomous system

4 Endocrine System

Endocrine glands, their functions & related disorders

References: -

Human physiology by Chatterjee vol I/ II Textbook of Medical physiology A.C. Guygton Concise medical physiology – Sujit Choudhari Basic clinical physiology- J.H. Green Ross & Wilson's Anatomy & Physiology in Health & illness-Anne Waugh& Allison Grant Physiology –Vijaya Joshi

FIRST YEAR (SEMESTER II)

SUBJECT- HUMAN PHYSIOLOGY

PRACTICAL

- 1] Determination of BT
- 2] Determination of CT
- 3] Determination of BP
- 4] Determination of Recording of Pulse
- 5] Peal Flow Measurement
- 6] Study of Digestive system
- 7] Study of Excretory System
- 8] Study of Respiratory System

FIRST YEAR (SEMESTER II)

SUBJECT- FOOD CHEMISTRY- PAPER- II

THEORY:

1 Minerals :-

Definition, macrominerals – calcium, phosphorus, sulphur, magnesium, sodium, potassium and chloride, Microminerals – iron, florine, zinc, copper, iodine, cobalt, chromium and other micronutrients

sources, daily requirement, functions & deficiency disorders

2 Water:-

Types of water in food, role of water in food preparation, preservation and shelf life

Distribution of body water, sources, requirements, functions, dehydration and rehydration

3 Energy Metabolism

Introduction, Determination of energy value of food, Total energy requirement, BMR and factors affecting BMR, Physical activity, Thermic effect of food.

4 Food Additives: -

Definition, functions, legal approval, major additives used in food processing, nutrient supplements, functional foods, phytochemicals and nutraceuticals.

References:

- 1. Biochemistry Dr. U. Satyanarayan
- 2. Textbook of Biochemistry Albert Lehninger
- 3. Food Facts & Principles N. Shakuntala Manay, M. Shadaksharswamy
- 4. Food Science Sumati R. Mudambi, Shalini M. Rao, M.V.Rajagopal
- 5. Essentials of Food Science Vickie A. Vaclavik, Elizabeth W. Chrishtian
- 6. Food chemistry I By Fennama O. R.
- 7. Food & Nutrition By Swaminathan
- 8. Food science By Potter.

FIRST YEAR (SEMESTER II)

SUBJECT- FOOD CHEMISTRY

PRACTICAL

- 1] Acid value of fat /oil
- 2] Iodine value of fat / oil
- 3] Changes on heating at starches / gelatinization properties of starchs
- 4] Smoking points at fats & oils
- 5] Effect of acid & alkali on colour of fruits & veg.
- 6] Effect of sugar on boiling point of water.

BACHELOR OF FOOD TECHNOLOGY AND MANAGEMENT FIRST YEAR (SEMESTER II) SUBJECT – FOOD MICROBIOLOGY-Paper II

Unit No 1: Culture Media

Composition, Importance, types- simple media, complex media, synthetic media, enriched media, enrichment media, selective media, indicator media, differential media, sugar media, transport media and anaerobic media.

Unit No 2: Cultural Methods

Methods for isolation of pure culture- Streak plate, Pour plate and Spread plate Unit No 3: Stains and Staining Procedures

Definition of dye & stains, classification of stains- Acidic, Basic and Neutral, principles, procedure, mechanism & application of staining procedures: simple staining, negative staining, differential staining, gram staining & acid fast staining.

Unit No 4: Biochemical Properties of Bacteria

Sugar fermentation, Indole production, Methyl red test, Voges-Proskauer test, Methylene blue reduction and urease test, composite media.

References:

Textbook of Microbiology (6th edition) by Ananthnarayan & C K J Paniker Basic Food Microbiology by George J. Banwart Food Microbiology by M R Adams and M O Mos A textbook of Biotechnology by R.C.Dubey Industrial microbiology L.E.Casida

FIRST YEAR (SEMESTER I)

SUBJECT- FOOD MICROBIOLOGY

PRACTICAL

- 1. Preparation of nutrient media
- 2. Different culture methods
- 3. Staining of bacteria

BFTM – I, SEMESTER - II Introduction to Computer –Paper - II

Unit-1: Windows Operating System: Definition of Operating System, Characteristics and Functions of O.S., Windows - Default icons on desktop, Important terms in windows operating – Icon, Desktop, Drives, Folder, Parts of Windows, Cut, Copy and Paste operations

(08)

Unit-2: MS-Word: Features of MS-Word, Components of MS-Word, Menus in MS-Word – File, Edit, View, Insert, Format, and Table, Mail-merge utility (12)

Unit-3: MS-Excel: Components of MS-Excel, Formatting options, sorting and Filtering of data, Some commonly used functions – SUM, MAX, MIN, AVERAGE, COUNT. Generating various charts using data.

(12)

Unit-4: MS-PowerPoint: Introduction, Creating presentation, Formatting options, use of animation, slide transition, Use of hyperlink, Introduction to Internet, Browsing and Mailing.

(08)

References:

1. Microsoft Office 2000 by Vipra Computers, Vipra printers pvt. Ltd.

2. Advanced Maicrosoft Office 2000 by Mereditha Flynin, Nita Rukosky, BPB pub.

3. Teach yourself Windows

FIRST YEAR (SEMESTER II)

SUBJECT- INTRODUCTION TO COMPUTER

PRACTICAL

MS-Excel:

- 1. Creating and saving the workbook
- 2. Calculating the salary of employees
- 3. Calculating the student result
- 4. Calculating the sale and purchasing bills
- 5. Inserting and formatting the various charts
- 6. Sorting and Filtering the data.

MS-PowerPoint & Internet:

- 7. Creating and saving the simple presentation
- 8. Use of animations in presentation
- 9. Use of slide transition and timing in presentation.
- 10. Accessing the various websites.
- 11. Writing and sending e-mails.

Equivalence for B.F.T.M. course B.F.T.M. First Year (Sem-I)

Sr.	Old Course	Sr.	New Course
No.		No.	
1.	Communication for self employed	1.	Communication and soft skills – I
	professional – I		
2.	Applied Mathematics and	2.	Deleted and so Student should be
	Statistics – I		given 2 additional chances to clear
			the subject
3	Applied Physics - I		Deleted and so Student should be
			given 2 additional chances to clear
			the subject
4.	Food Chemistry – I	3.	Food Chemistry-I
5.	Principles of Food Preservation - I	4.	Principles of Food Preparation &
			Preservation-I
6.	Human Physiology – I	5.	Human Physiology – I
7.	Human Nutrition – I		Deleted and so Student should be
			given 2 additional chances to clear
			the subject
8.	Introduction to Computer - I	6.	Introduction to computer – I
	-	7.	Fundamentals of Food
			Microbiology – I(Newly
			introduced)

B.F.T.M. First Year (Sem-II)

Sr.	Old Course	Sr.	New Course
No.		No.	
1.	Communication for self employed	1.	Communication and soft skills –
	professional – II		II
2.	Applied Mathematics and	2.	Deleted and so Student should be
	Statistics – II		given 2 additional chances to clear
			the subject
3	Applied Physics - II		Deleted and so Student should be
			given 2 additional chances to clear
			the subject
4.	Food Chemistry – II	3.	Food Chemistry-I
5.	Principles of Food Preservation - II	4.	Principles of Food Preparation &
			Preservation-II
6.	Human Physiology – II	5.	Human Physiology – II
7.	Human Nutrition – II		Deleted and so Student should be
			given 2 additional chances to clear
			the subject
8.	Introduction to Computer - II	6.	Introduction to computer – II
	-	7.	Fundamentals of Food
			Microbiology – I(Newly
			introduced)