



आईएफटीएम विश्वविद्यालय, मुरादाबाद, उत्तर प्रदेश
IFTM University, Moradabad, Uttar Pradesh
NAAC ACCREDITED

SCHOOL OF SCIENCES
DEPARTMENT OF HOME SCIENCE

BACHELOR OF SCIENCE (HOME SCIENCE)

THREE YEAR PROGRAMME

[W. E. F. ACADEMIC SESSION: 2020 - 21]

IFTM UNIVERSITY
N.H.-24, Lodhipur Rajput, Delhi Road, Moradabad, Uttar Pradesh-244001
www.iftmuniversity.ac.in



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SCHOOL OF SCIENCES
DEPARTMENT OF HOME SCIENCE

Study & Evaluation Scheme of
Bachelor of Science (Home Science)
[Session 2020-21]

Programme	: Bachelor of Home Science
Course Level	: UG Course
Duration	: Three Year (Six Semester) Full Time
Medium of Instruction	: English
Minimum Required Attendance	: 75%
Maximum Credits	: 168

This is a major contribution of Home Science in both developed and developing societies.

The objectives of the present B.Sc. Program Home Science course are:

- To understand the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
- To learn about the sciences and technologies that enhance value of the life of people
- To acquire professional and entrepreneurial skills for economic empowerment of the student in particular, and community in general
- To develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development
- To take science from the laboratory to the people
- To Familiarize learners with the basic knowledge specific to five domains namely, Foods and Nutrition, Human Development and Family Studies, Fabric and Apparel, Resource Management and Communication and Extension.
- To develop functional skills in the five domains for career and employment.
- To prepare learners for enrichment and higher studies.

Programme Outcomes (POs):

Students completing this course will be able to:

- Function as a creative and responsible individual in relation to self, family, community and society.

- Apply the basics of human development with specific reference to self, family and community.
- Utilize the skills of sensible management of various resources.
- Be sensitized to fabric and apparel, their selection and care.
- Inculcate healthy food habits and lifestyle to enable prevention and management of diseases.
- Become alert and aware consumer.
- Appreciate the potential of entrepreneurship and other varied professional opportunities to make informed career choices.

**SESSION (2020-2021)
COURSE STRUCTURE**

B. Sc. (Home Science) - I Year, Semester-1

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam					External Exam			
			L	T	P	CT	AS+AT		Total		
1.	BHSC-101	Introduction to Home Science	3	1	0	20	10	30	70	100	4
2.	BHSC-102	English language & Communication Skills	3	1	0	20	10	30	70	100	4
3.	BHSC-103	Introduction to Human Development	3	1	0	20	10	30	70	100	4
4.	BHSC-104	Basic concepts of Physics	3	1	0	20	10	30	70	100	4
5.	BHSC-105	Fundamentals of Basic Computers	3	1	0	20	10	30	70	100	4
6.	BHSC-106	Principles of Food and Nutrition	3	1	0	20	10	30	70	100	4
7.	BHSC-151	Home Science (Practical)	0	0	2	0	30	30	70	100	2
8.	AECC*	Environmental Studies	3	0	0	20	10	30	70	100*	3*
9.	BHSC-152	Fundamentals of Computers (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28

B. Sc. (Home Science) - I Year, Semester-II

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam					External Exam			
			L	T	P	CT	AS+AT		Total		
1.	BHSC-201	Food Science	3	1	0	20	10	30	70	100	4
2.	BHSC-202	Basic concepts of Chemistry	3	1	0	20	10	30	70	100	4
3.	BHSC-203	Early Childhood Care and Education	3	1	0	20	10	30	70	100	4
4.	BHSC-204	Sanitation & Hygiene	3	1	0	20	10	30	70	100	4
5.	BHSC-205	Introduction of Textiles	3	1	0	20	10	30	70	100	4
6.	BHSC-206	Life Span Development	3	1	0	20	10	30	70	100	4
7.	BHSC-251	Food Science (Practical)	0	0	2	0	30	30	70	100	2
8.	BHSC-252	Early Childhood Care and Education (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28

B. Sc. (Home Science) - II Year, Semester-III

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam						External Exam		
			L	T	P	CT	AS+AT	Total			
1.	BHSC-301	Applied Life Science	3	1	0	20	10	30	70	100	4
2.	BHSC-302	Consumer Economics	3	1	0	20	10	30	70	100	4
3.	BHSC-303	Family Dynamics & Child Development	3	1	0	20	10	30	70	100	4
4.	BHSC-304	Fabrics & Laundry Science	3	1	0	20	10	30	70	100	4
5.	BHSC-305	Nutritional Bio- Chemistry	3	1	0	20	10	30	70	100	4
6.	BHSC-306	Programs for Rural and Urban Development	3	1	0	20	10	30	70	100	4
7.	BHSC-351	Fabrics & Laundry Science (Practical)	0	0	2	0	30	30	70	100	2
8.	BHSC-352	Life Science (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28

B. Sc. (Home Science) - II Year, Semester-IV

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam						External Exam		
			L	T	P	CT	AS+AT	Total			
1.	BHSC-401	Human Development-I	3	1	0	20	10	30	70	100	4
2.	BHSC-402	Food Microbiology	3	1	0	20	10	30	70	100	4
3.	BHSC-403	House Hold Appliances	3	1	0	20	10	30	70	100	4
4.	BHSC-404	Introduction to Clothing Construction	3	1	0	20	10	30	70	100	4
5.	BHSC-405	Community Nutrition	3	1	0	20	10	30	70	100	4
6.	BHSC-406	Family Resource Management	3	1	0	20	10	30	70	100	4
7.	BHSC-451	Food Microbiology (Practical)	0	0	2	0	30	30	70	100	2
8.	UDM*	Disaster Management	3	0	0	20	10	30	70	100*	3*
9.	BHSC-452	House Hold Equipment's (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28



IFTM UNIVERSITY

(Established under UP Govt. Act No. 24 of 2010 and approved under section 22 of UGC Act 1956 & NAAC accredited)

Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.

Email: admissions@iftmuniversity.ac.in **Website:** www.iftmuniversity.ac.in, **Telephone:** 0591-2550207, 2360818 Department of Home Science (School of Sciences)

B. Sc. (Home Science) - III Year, Semester-V

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam						External Exam		
			L	T	P	CT	AS+AT	Total			
1.	BHSC-501	Nutrition Therapy	3	1	0	20	10	30	70	100	4
2.	BHSC-502	Community Development	3	1	0	20	10	30	70	100	4
3.	BHSC-503	Family Housing	3	1	0	20	10	30	70	100	4
4.	BHSC-504	Advanced Clothing Construction	3	1	0	20	10	30	70	100	4
5.	BHSC-505	Management of Meals	3	1	0	20	10	30	70	100	4
6.	BHSC-506	The Child With Special Need	3	1	0	20	10	30	70	100	4
7.	BHSC-551	Nutrition Therapy (Practical)	0	0	2	0	30	30	70	100	2
8.	BHSC-552	Management of Meals (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28

B. Sc. (Home Science) – III Year, Semester-VI

S. No.	Course Code	Course Titles	EVALUATION SCHEME							Total	Credits
			Internal Exam						External Exam		
			L	T	P	CT	AS+AT	Total			
1.	BHSC-601	Food Preservation & Protection	3	1	0	20	10	30	70	100	4
2.	BHSC-602	Art principles and Interior Decoration	3	1	0	20	10	30	70	100	4
3.	BHSC-603	Textile Design	3	1	0	20	10	30	70	100	4
4.	BHSC-604	Extension Training and Management	3	1	0	20	10	30	70	100	4
5.	BHSC-605	Furniture, Furnishing and Fittings	3	1	0	20	10	30	70	100	4
6.	BHSC-606	Entrepreneurship Management	3	1	0	20	10	30	70	100	4
7.	BHSC-651	Textile Design (Practical)	0	0	2	0	30	30	70	100	2
8.	BHSC-652	Entrepreneurship Management (Practical)	0	0	2	0	30	30	70	100	2
TOTAL			18	6	4	-	-	-	-	800	28

IFTM University, Moradabad
Course Code: BHSC-101
INTRODUCTION TO HOME SCIENCE

Course Objective

To understand about need, concept, history and role of interdisciplinary sciences in the development of individuals, families and communities. Apart of this the main objective of this course is to develop professional and entrepreneurial skills for economic empowerment of self in particular, and community in general

UNIT 1 **(8 Sessions)**

Home Science- nature, definition and importance, contribution of Home Science in moral and material upliftment of Individual and Society.

UNIT 2 **(12 Sessions)**

The interdisciplinary of Home Science Education, The role of Home Science Education for personal growth and professional development, Home Science as holistic education with integration of goals for persons, enhancement and community development.

UNIT 3 **(10 Sessions)**

Aims, objectives, History and philosophy of Home Science in General Universities and State Agriculture Universities, Introduction of IFHE and HSAI.

UNIT 4 **(12 Sessions)**

Major areas of Home Science - Their nature, scope, significance and purpose, Population Education, Various Definition, terms related to population dynamics, Causes and consequences of population blast

Unit 5 **(10 Sessions)**

Family life education and sex education, Benefits of small family.

- Concept of positive health including physical, social, mental and school health.
- Causes of poor health standard.
- Health education

Course Outcomes:

After undertaking the course students will be able to:

- Comprehend the relationship between home science educations with extension system.
- Understand and appreciate the role of interdisciplinary sciences in the development of individuals, families and communities
- Understand the sciences and technologies that enhance the quality of life of the people
- Acquire professional and entrepreneurial skills for economic empowerment of self in particular, and community in general
- Develop professional skills in food, nutrition, textiles, housing, product making, communication

technologies and human development

- Take science from the laboratory to the people
- Project the various opportunities that can be available to you after studying various aspects of home science.
- Differentiate between the self-employment and wage employment for supplementing family income.

Suggested Readings:

1. Fundamentals of Teaching Home Science by A.A. Chandra and Joshi U, NewDelhi: Sterling PublishersHouse.
2. Text-book of Home Science by P Rajammal Devadas, NCERT,New
3. Sumita Roy, Tej Verma and Pushpa Gupta 2006 Textbook on Family Approach in Extension Programme Management Directorate of Informaiton and Publications of Agriculture Indian Council of Agricultural Research New Delhi.
4. Dahama O.P. and Bhatnagar O.P, Education and Communication Development, Second Edition, Oxford and IBH Publishing Pvt. Ltd, Calcutta.

Website Sources:

- <https://drive.google.com/file/d/1dRvYRj01pU6o5-reMx4MzTH6cqI0CBIE/view>
- [https://en.wikipedia.org/wiki/Sex_Education_\(TV_series\)#:~:text=Sex%20Education%20is%20a%20British,11%20January%202019%20on%20Netflix.](https://en.wikipedia.org/wiki/Sex_Education_(TV_series)#:~:text=Sex%20Education%20is%20a%20British,11%20January%202019%20on%20Netflix.)
- https://en.wikipedia.org/wiki/Health_education
- <https://en.wikipedia.org/wiki/Health>

IFTM University, Moradabad
Course Code: BHSC-102
ENGLISH LANGUAGE & COMMUNICATION SKILLS

Course Objective

To enhance the learner's communication skills by giving adequate exposure in LSRW- listening, speaking, reading and writing skills and the related sub-skills.

UNIT I **(10 Sessions)**

Introduction to Communication - Communication, Importance of effective communication, Principles of communication (clarity, completeness, conciseness, consideration, courtesy), correctness.

UNIT 2 **(7Sessions)**

Aids to correct writing - Nouns, Pronouns, Adjectives, Articles, Verbs, Adverbs, Prepositions, Conjunctions, Punctuation.

Vocabulary – Synonyms, Antonyms, one word substitution, Idioms & Phrases.

Sentences - (Present, Past and Future).

UNIT 3 **(6Sessions)**

Paragraph Writing - writing a few lines (10-15) on any given topic or writing a Paragraph completing a given set sentences.

UNIT 4 **(10 Sessions)**

Letter Writing- Job application letter with bio-data / resume, Joining Letter, Business letter, Enquiry Letter
Complain Letter, Adjustment Letter, Letter to the Editor of a newspaper.

UNIT5 **(5 Sessions)**

Report writing - Importance, types of reports, parts of reports, preparing the report, Essay writing, Precise writing.

Course Outcomes:

After undertaking the course students will be able to:

- Knowledge of English helps the students to build the skills of creative and intellectual ideas and makes them to enrich their career.
- Learners of our course can easily acquire wide knowledge and allow them to be effective in their interpretations.
- Skills of LSRW in English make the students to enrich themselves in all aspects and make them to explore and demonstrate an ability to cope up the life with stylistic clarity
- The main outcome of studying English will widely help to express and improve the ability to read works of literary, rhetorical and cultural criticism
- It further makes them to develop and acquire great opportunities that is needed in their future career (i.e.) makes oneself to get good job and soon.

- It also allows one to formulate queries for progressive and helps them to identify the letter solution for the Problem.
- It helps the reader to be fluent in English and makes them to be bold enough wherever they go as they are good in English.

Suggested Readings:

1. English Grammar, Composition and usage by J. E. Nesfield adapted by N. K. Aggrawal and F.T. Wood.
2. English Idioms by Jennifer Seidi and W. McMordie
3. Creative English for Communication by N. Krishnaswamy and T. Sriraman
4. *High School English Grammar and Composition Book (Regular Edition)* by Wren & Martin and revised by D V Prasada Rao N and N D V Prasada Rao
5. *Essential English Grammar* by Raymond Murphy
6. *Intermediate English Grammar* by Raymond Murphy
7. *Penguin Guide to Punctuation* by R L Trask
8. *The Penguin Writer's Manual* by Martin Manser and Stephen Curtis

Website Sources:

- <https://www.molloy.edu/Documents/English/GrammarNotes.pdf>
- <http://www.espressoenglish.net/wp-content/uploads/2012/07/Free-Grammar-Ebook-Level-2.pdf>
- <https://www.slideshare.net/kssalcedo/basics-of-english-grammar>
- <https://www.slideshare.net/cjsmann/englishgrammar-70540449>
- <https://www.slideshare.net/txgrunt/basic-english-grammar-34219611>

IFTM University, Moradabad
Course Code: BHSC-103
INTRODUCTION TO HUMAN DEVELOPMENT

Course objectives

- To understand about the stages of development, child reflexes, principles of development, Difference between growth and development, Factors affecting growth and human development.
- To understand about the caring pattern and methods of child assessment.

UNIT I

(6 Sessions)

Human Development -Definition and importance of Human Development, Individual differences in Human Development, Scope of Human Development, Methods of child study.

UNIT 2

(6 Sessions)

Growth and Development-Concept and principles of development, Difference between growth and development, Factors affecting growth and human development.

UNIT 3

(8 Sessions)

Determinants of Development- Heredity and Environment, Maturity and Learning.

UNIT 4

(6Sessions)

Developmental Stages-Menstrual Cycle and Fertilization, Prenatal development stages and sub stages, Factors affecting prenatal development

UNIT 5

(7 Sessions)

Care of the newborn-Reflexes of the newborn and neonatal assessment, IUGR (Intra Uterine Growth Retardation) and Pre mature babies

Course outcomes:

After undertaking the course students will be able to:

- Analyze the effect of biological, environmental and cultural influences on development of children of all ages.
- Define developmental theory and explain how theories are used to understand child behavior and development.
- Examine and evaluate the role of play and its relationship to development at various stages.

Suggested Readings:

1. Developmental Psychology by Elizabeth Hurlock, Tata McGraw Hill Publishing Co., New Delhi.
2. Human Development by Diane E. Papalia and Sally Wendkos m, Tata Mcgra Hill Publishing Co., New Delhi.
3. Child Psychology by Vatsayayan, Kedar Nath Ram Nath, Meerut.
4. Fabes R., & Martin. C.L. (2003), *Discovering Child Development*. (pp 341-344). United States of America: Pearson Education Inc.

5. Owens, K. (2003), *Child and Adolescent Development, An integrated Approach* (pp 380-400). Wards worth: United States.
6. Hurlock E.B. (1980), *Developmental Psychology, A Life span Approach*, 5 th edition, New Delhi: Tata Mc. Graw Hill Publishing company Ltd.

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- http://www.wbnsou.ac.in/online_services/SLM/BED/SEM-01_A1.pdf
- https://gov.mb.ca/fs/pwd/pubs/js_manual/k_undestand_dev.pdf
- https://catalogue.pearsoned.ca/assets/hip/us/hip_us_pearsonhighered/samplechapter/0205989365.pdf
- https://people.umass.edu/mva/pdf/Neonatal_Reflexes_07.pdf
- <http://www.yorku.ca/bakerj/Infant%20reflexes.pdf>

IFTM University, Moradabad
Course Code: BHSC-104
BASIC CONCEPTS OF PHYSICS

Course Objectives

- To organize the universe and deals with fundamentals,
- To helps us to see the connections between seemly disparate phenomena.
- To help us to express our creativity.
- To see the world in new ways and then to change it.

UNIT I

(6 Sessions)

Simple Machines- Machines and their principles, efficiency, mechanical advantage, lever pulley and axel, Working knowledge of household equipment's like vacuum cleaner, hair dryer, food processor, Washing machine, microwave oven and OTG's.

UNIT 2

(8 Sessions)

Heating & Cooling Machines- Functioning, utility and maintenance of- Heater, Iron, Water Geysers, OTG and Induction cook top, functioning, utility and maintenance of cooler, refrigerator, air conditioner and deep freezer.

UNIT 3

(10 Sessions)

Light-Properties and transmission of light, Laws of reflection and refraction, Normal vision, defects of vision, Camera, Working of camera, microscope and Binoculars.

UNIT 4 (6Sessions)

Electricity-Transmission of electricity, Study of conductors, ammeter and voltmeter, Study of house wiring, earthing, transformer, adopter, plug, fuse, bulb, fluorescent tube.

UNIT5

(8 Sessions)

Sound- Production & Reflection of sound measurement of noise, echo and its uses, Radio, television, telephone, microphone and loudspeaker.

Course outcomes:

After undertaking the course students will be able to:

- Explain how physics applies to phenomena in the world around them.
- Students in physics courses that provide the foundation for later courses in their disciplines should additionally be able to recognize how and when physics methods and principles can help address problems in their major and then apply those methods and principles to solve problems in the majors.

Suggested Readings:

1. Concept of Physics by Prof. H.C. Verma, Part-1 (Bharti Bhawan).
2. Concept of Physics by Prof. H.C. Verma, Part-2 (Bharti Bhawan).
3. A Text Book of Applied Physics: by Eagle Parkashan, Jullandhar.

4. Basic Physics: A Self-Teaching Guide 2nd Edition by Karl F. Kuhn, Publisher: J. Wiley; 2 edition (1996),Pages: 301 pages Edition: Second Edition.
5. Fundamentals of Physics , David Halliday, Robert Resnick, and Jearl Walker, Publisher: Wiley; 10 edition (August 13, 2013), Pages: 1232 pages, Edition: 10th edition

Website Sources:

- <https://blog.epicvila.com/home-appliances-working-conditions/>
- https://en.wikipedia.org/wiki/Home_appliance
- <https://www.uio.no/studier/emner/matnat/ifi/INF-GEO4310/h09/undervisningsmateriale/imaging-kap2.pdf>

IFTM University, Moradabad
Course Code: BHSC-105
FUNDAMENTALS OF COMPUTERS

Course Objectives

- An understanding of basic concepts of computer science.
- An introduction to the fundamentals of hardware, software and programming.

UNIT – I

(10 Sessions)

Computer Fundamentals: Introduction to Computer, Hardware, Software, Types of Software's, Block Diagram of Computer, Classification of Computer, Computer Generation, Introduction to Peripheral (Input/output) Devices, Classification of Computer Memory.

UNIT – 2

(8 Sessions)

Fundamental of Operating Systems: Definition and need of Operating System, Function of operating System, useful term of Operating System (Multiprogramming, Multiprocessing, Timesharing).

UNIT – 3

(6Sessions)

Computer Networks: Characteristic of networking technology, components of network. Internet: Basic Terms, software & hardware requirement for internet, online banking, e-commerce, Email, advantages and disadvantages of Internet.

UNIT – 4

(6 Sessions)

Use of MS- Office: Basics of MS – Word, MS – Excel and MS – Power point; Applications of these software's for documentation and making; preparation of questionnaires, presentation, tables and reports.

Database Management System: Overview of DBMS; Components of DBMS, Recent trends in database, RDBMS.

UNIT-5

(8 Sessions)

Internet - Genesis and use of Internet, Software and hardware requirements for Internet, Accessing the Internet, web page, accessing the Internet from MS – Office application

Course outcomes:

After undertaking the course students will be able to:

- Explain the needs of hardware and software required for a computation task.
- Explain the working of important application software and hardware.
- Student will develop a vocabulary of key terms related to the computer and to software program menus
- Student will be able to identify the components of a personal computer system
- Student will be able to demonstrate mouse and keyboard functions
- Student will be able to demonstrate window and menu commands and how they are used
- Student will be able to demonstrate how to organize files and documents on a USB/hard drive
- Student will be able to compose, format and edit a word document

- Student will be able to send email messages (with or without attachments)
- Student will be able to navigate and search through the internet
- Demonstrate the use of Operating system commands and shell script.

Suggested Readings:

1. Computer fundamentals by P. K. Sinha.
2. Condex Computer Kit by Vikas Gupta, Dream tech press, New-Delhi.
3. Microsoft office XP complete, Ronn Jost, Kylic Johnson, SYBEX Company.

Website Sources:

- <http://en.wikipedia.org>,
- <http://learning-unix.blogspot.in>,
- <http://www.mywikibiz.com> (Links)
- http://www.tmv.edu.in/pdf/Distance_education/BCA%20Books/BCA%20I%20SEM/BCA-121%20Computer%20Fundamental.pdf
- http://fmis.ap.gov.in/fileBkp2/13/computer_fundamentals%20by%20sinha%20&%20sinha.pdf

IFTM University, Moradabad
Course Code: BHSC-106
PRINCIPLES OF FOOD AND NUTRITION

Course Objectives

- To have an understanding as to how to meet our service users nutritional needs.
- To understand the importance of a well-balanced diet, including the importance of fluids.
- To familiarize about principles of nutrition, Human nutrient requirements, Fundamental mechanisms through which nutrition contributes to the maintenance of good Health, Role of essential nutrients (macro and micro) in human, Nutrients and their biological role and function.

UNIT -1

(8 Sessions)

Food and Nutrition- Concept, meaning and definition of food and nutrition, functions of food, basic food groups and its importance in the diet, balanced diet and meal planning.

UNIT -2

(8Sessions)

Macronutrients (carbohydrates, lipids and protein) - classification, sources, functions, recommended dietary allowances, deficiency and excess, digestion, absorption and metabolism.

UNIT -3

(6Sessions)

Vitamins (fat soluble and water soluble) - Sources, functions recommended dietary allowances, absorption and metabolism, deficiency and toxicity.

UNIT -4

(8 Sessions)

Energy source- carbohydrates, proteins, fats and alcohol, three basic functions of energy: basal metabolism, physical activity and thermo genesis and factors influencing them.

UNIT-5

(8Sessions)

Enzymes –Classification, Elementary treatment of enzymes kinetics, includes factors which affect rates of enzymes – catalyzed reactions.

Course outcomes:

After undertaking the course students will be able to:

- Utilize knowledge from foundational sciences as a basis for understanding the role of food and nutrients in health and disease.
- Perform food system management and leadership functions that consider sustainability in business, healthcare, community, and institutional arenas.
- Understand what an adequate and well-balanced diet is.
- Examine the several concepts of nutrition.
- List rules of adequate and balanced diet.
- Learn the energy and food demands of the elderly people.
- Learn how to make nutritive plans according to those demands

Suggested Readings:

1. Elements of Food Technology by Desrosier: Connecticut, USA: Avi publishing co.
1. Food Nutrition and Diet Therapy by Mahan K and Escott- Stumps S. . Krauses. USA: Saunders.
2. Satyanarayan U and upala. Biochemistry. Book & Allied (p) Ltd.
3. J. Mann and S. Truswell (2nd edition, 2002). *Essentials of Human Nutrition*. Oxford University Press.
4. *Encyclopedia of Human Nutrition* (1998). London: Academic Press.
5. Shils, Olson, Shike, and Ross (Eds.), (1999). *Modern Nutrition in Health and Disease*, 9th edition. Williams and Wilkins.
6. Linder, Ed. (1991). *Nutritional Biochemistry and Metabolism*, 2nd edition. Elsevier.
7. Recommended Dietary Allowances, 10th ed., National Academy Press, 1989: Chapter on iron (pp. 195-205) and folate and B12 (pp. 150-165).
8. Garrow J.S., James W.P.T. and Ralph A (2000), Human Nutrition and Dietetics, 10th edition, Churchill Livingstone.
9. Swaminathan M.(1974) Adavanced Text Book On Food and Nutrition ,Volume II
10. Manay S.N., Sadaksharaswami M. (1998), Food Facts and Principles. New Age International Pvt. Ltd., New Delhi.
11. Bamji M., Prahlad N., Vinodhini R (1998), Text Book of Human Nutrition. Oxford and IBH Publ. Co., New Delhi.
12. Vijaya D.T. (1993), Handbook of Nutrition and Dietetics, Vora Medical Publishers., Mumbai.
13. Indian Council of Medical Research (2010), Nutrient Requirements and RDA for Indians, ICMR.

Website Sources:

- <https://www.anme.com.mx/libros/Principles%20of%20Human%20Nutrition.pdf>
- <https://byjus.com/biology/enzymes/>
- <https://www.slideshare.net/DrVandanaMahajani/functions-of-food-and-definitions>
- <https://www.slideshare.net/arathanakannan/food-energy-43426273>
- <https://www.toppr.com/guides/biology/biomolecules/proteins/>
- <https://courses.lumenlearning.com/wm-biology1/chapter/reading-types-of-carbohydrates/>
- <https://byjus.com/biology/lipids/>

ITM University, Moradabad
Course Code:AECC
Environmental Studies (EVS)

Course Objectives

- Creating the awareness about environmental problems among people.
- Imparting basic knowledge about the environment and its allied problems.
- Developing an attitude of concern for the environment.
- Motivating public to participate in environment protection and environment improvement.
- Acquiring skills to help the concerned individuals in identifying and solving environmental problems.
- Striving to attain harmony with Nature.

UNIT1

(5 Sessions)

Nature, Definition, Scope and Importance of Environmental Studies.

UNIT 2

(12 Sessions)

Natural Resources: Renewable and non-renewable resources, Natural resources and associated problems. Forest resources: Use and over-exploitation, Deforestation, Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

UNIT 3

(8 Sessions)

World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification, Role of an individual in conservation of natural resources & equitable use of resources for sustainable lifestyles.

UNIT 4

(8Sessions)

Ecosystems: Concept of an Ecosystem, Structure and Function of an Ecosystem, Energy flow in the ecosystem. Hot-spots of Bio-diversity, Threats to Bio-diversity: Habitat Loss, poaching of wildlife, man wildlife conflicts. Conservation of Bio-diversity: In-situ and Ex-situ conservation of biodiversity. Environmental Pollution Definition, Cause, effects and control measures of: a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards, Solid Waste Management: Causes, effects and control measures of urban and industrial wastes & Role of an individual in prevention of pollution.

UNIT 5

(8 Sessions)

Social Issues and the Environment: From Unsustainable to Sustainable development, urban problems related to energy, Water conservation, rain water harvesting, watershed management, Resettlement and rehabilitation of people; its problems and concerns. Environmental Ethics : Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Environment Protection Act: Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act & Forest Conservation Act, Issues involved in enforcement of environmental legislation.

Field Work

Visit to a local polluted site-Urban/Rural/Industrial/Agricultural, Study of common plants, insects, birds, Study of simple ecosystems-pond, river, hill slopes, etc.

Course outcomes:

After undertaking the course students will be able to:

- Critically examine all sides of environmental issues and apply understanding from disciplines such as history, economics, psychology, law, literature, politics, sociology, philosophy, and religion to create informed opinions about how to interact with the environment on both a personal and a social level.
- To recognize the physical, chemical, and biological components of the earth's systems and show how they function.
- To apply lessons from various courses through field experiences. These experiences will allow students to develop a better sense of not only individual organisms, but of the systems in which these organisms live. Students will also see how natural systems and human-designed systems work together, as well as in conflict with each other.
- To do independent research on human interactions with the environment.

Suggested Readings:

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad – 380 013, India,
3. Email:mapin@icenet.net (R)
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB) e) Cunningham, W.P. Cooper, T.H.
6. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia,
7. Jaico Publ. House, Mumabai, 1196p
8. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
9. Down to Earth, Centre for Science and Environment (R)
10. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security.
11. Stockholm Env. Institute Oxford Univ. Press. 473p
12. Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
13. Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press 1140p.
14. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.
15. Mckinney, M.L. & School, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition. 639p.
16. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p
17. Rao M N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd. 345p.
18. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut
19. Survey of the Environment, The Hindu (M)
20. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB) XI
21. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Stadards, Vol I and II, Enviro Media (R)
22. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (TB)

Website Sources:

- <https://www.hzu.edu.in/bed/E%20V%20S.pdf>
- https://www.ametuniv.ac.in/exam_attachment/Question%20Bank/UG/Marine-Bio-Technology/EVS.pdf
- https://content.kopykitab.com/ebooks/2017/04/10749/sample/sample_10749.pdf
- <http://www.tezu.ernet.in/denvsc/IDC/Study%20material%20Unit%201.pdf>

IFTM University, Moradabad
Course Code: BHSC-152
FUNDAMENTALS OF COMPUTERS
(PRACTICAL)

Course outcomes:

After undertaking the course students will be able to:

- Bridge the fundamental concepts of computers with the present level of knowledge of the students.
- Identify and analyze computer hardware, software, and network components.
- Install, configure, and remove software and hardware.
- Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems.
- Make intelligent computer purchase decisions.
- Analyze compression techniques and file formats to determine effective ways of securing, managing, and transferring data.
- Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet

List of Practical-

1. Windows: Managing windows, working with Disk, Folders and Files.
2. Make copies on floppy disk, CD or USB key.
3. Working with antivirus software.
4. Computer Operating System (Windows).
5. Internet (Email Browsers etc.).
6. Demonstrate ability to send and receive email.
7. Edit documents and text using deletion, insertion, copy and move, spell.
8. Columns, borders, styles, and special formation.
9. Save and retrieve document using folders and subfolders.
10. Learn how to format text in Word and how to add header, footer, and page numbers.
12. Learn how to create tables and insert pictures.
14. Create a presentation.

Suggested Readings:

1. Introduction Computer, Forth Edition: Peter Norton Tata McGraw Hill Edition
2. Computer Fundamentals by P. K. Sinha, BPB Publication.
3. Computer Fundamentals with Pharmacy & Applications by N. K. Tiwari, PhramaMed Press.
4. Computer Applications in Management: Kakkar DN, Goyal R New Age Publication.

Website Sources:

- http://en.copian.ca/library/learning/nlllc/essential_skills/skill_book_2010/skill_book_2010.pdf
- <https://www.polygwaliar.ac.in/file/20181204071417842813.pdf>
- <http://www.sitttrkerala.ac.in/misc/LabManual/1008.pdf>

IFTM University, Moradabad
Course Code: BHSC-151
Home Science (PRACTICAL)
(PRACTICAL)

Course outcomes

After undertaking the course students will be able to:

- Create knowledge about some measures which are helpful during care of patient.
- Make teaching aids and book marks.
- Familiarize with different types of bandages.

List of Practical-

1. Care during various diseases and preparation of Meal

- a) Acute Fever
- b) Diarrhea
- c) Typhoid
- d) Dehydration

2. Preparation of some special Indian dishes.

3. Pre-treatment and processing of pulses germination, fermentation.

4. First Aid and Home Nursing.

2. Bandages –

a. Roller-finger, arm, leg, elbow, knee, Cap line, b. Triangular – Head, palm/foot, slings

3. Make a resource file if minimum two article from various magazines and newspaper on Human Development.

4. Prepare a waste material article (Decorative, Teaching, card and Book Marks).

5. Time plans for different work situation.

6. Relaxation Techniques for working Women/Mother.

7. Use of Kidney tray, spittoon, eye glass, thermometer, Blood pressure, sugar testing and their Estimations.

8. Listing of Organization working for women upliftment.

Suggested Readings:

1. Food Nutrition and Diet Therapy by Mahan K and Escott- Stumps S. . Krauses. USA: Saunders.
2. Satyanarayan U and upala. Biochemistry. Book & Allied (p) Ltd.
3. J. Mann and S. Truswell (2nd edition, 2002). *Essentials of Human Nutrition*. Oxford University Press.
4. *Encyclopedia of Human Nutrition* (1998). London: Academic Press.
5. Shils, Olson, Shike, and Ross (Eds.), (1999). *Modern Nutrition in Health and Disease*, 9th edition. Williams and Wilkins.

Website sources:

- <https://alraziuni.edu.ye/uploads/pdf/fundamentals-of-foodnutrition-and-diet-therapy.pdf>
- <https://www.slideshare.net/mohanasundariskrose/first-aid-ppt-69486097>
- <https://www.slideshare.net/msmaybelle/first-aid-bandaging>

IFTM University, Moradabad
Course Code: BHSC-201
Food Science

Course Objectives:

- To gain knowledge on sources and properties of food.
- Develop skills to judge the quality of cooked foods.
- Apply the principles while preparing and cooking foods.

UNIT- 1 **(8 Sessions)**

Foods- Definition and objectives in the study of foods, Relation to nutrition and function of foods.

UNIT -2 **(10 Sessions)**

Basic food groups (Composition and nutritive value)-Cereals, Pulses, Vegetables and fruits, Milk and Milk products, Meat, Fish, Poultry and Eggs, Nuts and Oils, Spices and Condiments, Sugar and Jiggery.

UNIT -3 **(8 Sessions)**

Cooking - Methods and principles of cooking various foods stuff. Processing of food stuffs before cooking, Effect on nutritive and other values of foods during cooking.

UNIT -4 **(12 Sessions)**

Improving nutritional quality of foods-Germination, Fermentation, Supplementation, Substitution Fortification and Enrichment.

UNIT-5 **(10 Sessions)**

Vitamins – classification, Chemistry and physiological functions of: Fat soluble vitamins – A, D, E & K
Water soluble Vitamins – B complex: thiamine, riboflavin, niacin, pyridoxine, pantothenic C acid, Folic acid, Biotin B-12 and Vitamin-C (Ascorbic acid)

Course outcomes:

After undertaking the course students will be able to:

- Summarize and critically discuss/ understand both fundamental and applied aspects of food science.
- They will be able to explain functions of specific nutrients in maintaining health, identifying nutrient specific foods and apply principles from the various facets of food science and related disciplines to solve practical as well as real-world problems.
- Use current information technologies to locate and apply evidence-based guidelines and protocols and get imparted with critical thinking to take leadership roles in fields of health, dietetics, special nutritional needs and nutritional counseling.

Suggested Readings:

1. Robinson, C.H.: Normal and Therapeutic Nutrition
2. Davidson and Passmore : Human Nutrition and Dietetics

3. Swaminathan, M : Essentials of food and Nutrition
4. Food Science: Fifth Edition (Food Science Text Series) 5th Edition.by Norman N. Potter and Joseph H. Hotchkiss
5. Introduction to Food Engineering, Fifth Edition (Food Science and Technology) Aug 16, 2013. R Paul Singh and Dennis R. Heldman
6. Essentials of Food Science (Food Science Text Series) 4th ed. 2014 Edition. Vickie A. Vaclavik and Elizabeth W. Christian
7. Lawrie's Meat Science, Eighth Edition; Woodhead Publishing Series in Food Science, Technology and Nutrition; Fidel Toldra.
8. Flavor, Satiety and Food Intake Beverly Tepper and Martin Yeomans. ISBN: 978-1-119-04489-5

Website Sources:

- <https://www1.health.gov.au/internet/publications/publishing.nsf/Content/gug-family-toc~gug-family-foods~gug-family-foods-basic>
- <https://sc-s.si/joomla/images/Cookery%20Processes.pdf>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6261201/>
- <https://oer.unimed.edu.ng/LECTURE%20NOTES/3/2/RASAQ-NURUDEEN-OLAJIDE-UNIMED-BCH-222-VITAMINS.pdf>

IFTM University, Moradabad
Course Code: BHSC-202
BASIC CONCEPTS OF CHEMISTRY

Course Objectives:

- Acquire some knowledge of the empirical world.
- Acquire an ability to observe accurately and objectively.
- Acquire an ability to solve problem.
- Acquire an ability to think scientifically, independently and to make rational discussion.
- Acquire an ability to communicate, using the language of chemistry.
- Develop an appreciation of chemistry and its application in daily life.

UNIT -1

(10 Sessions)

Introduction-Branches of Chemistry and its terminology, element, mixture, valency, compound, molar solution and equivalent weight, atomic structure of electron, proton and neutron, atomic number, atomic weight and atomic structure of sodium, chlorine, copper.

UNIT -2

(8 Sessions)

Acids, Base and Salts Alkaloids- Function and properties of alkaloids, uses and effects of nicotine and quinine, types of dyeing agents and their uses.

UNIT -3

(12 Sessions)

Study of Drugs- Definition and function of antibiotics, antiseptics, analgesics, sulpha-drugs, insecticides and disinfectants, fire extinguisher- use and maintenance.

UNIT -4

(8 Sessions)

Cosmetics- Composition, characteristics of cold and vanishing creams, lipsticks, nails paints, shampoo, suns creams and hair color, hair oil and dyes, precautions while purchasing cosmetics and while using them.

UNIT -5

(8 Sessions)

Paints and Vanishes- Composition and types, elementary knowledge of cement and glass.

Course outcomes:

After undertaking the course students will be able to:

- Name elements, provide their symbols and determine the number of protons, neutrons, electrons and nuclei in elements and compounds
- Calculate molarity of a solution starting with pure solute or with a concentrated solution as well as explain how to prepare a solution of a given molarity
- Correlate between branches of chemistry
- Can Gain knowledge about drugs and their use in daily life
- Can explain characteristics and composition of various cosmetics used in day to day life

Suggested Readings:

1. General Inorganic Chemistry by Sogani & Mohnot
2. A Text Book for Chemistry Class XII part I & II NCERT Organic Chemistry by Kumar & Mohnt
3. Applied Chemistry by Mathur, N.L. and Jain, (Hindi ed.) for Polytechnic Colleges
4. PEGASUS, BASIC CONCEPTS OF CHEMISTRY, HB Kindle Edition

Website Sources:

- <https://www.toppr.com/ask/content/concept/antimicrobials-antibiotics-disinfectants-and-antiseptics-203558/>
- <https://www.britannica.com/science/alkaloid>
- <https://en.wikipedia.org/wiki/Cosmetics>
- <https://yespainter.com/paint-product-2/what-is-the-difference-between-paint-and-varnish/>
- <https://en.wikipedia.org/wiki/Cement>
- <https://en.wikipedia.org/wiki/Glass#:~:text=Glass%20is%20a%20non%2Dcrystalline,volcanic%20glass%20are%20naturally%20occurring.>

IFTM University, Moradabad
Course Code: BHSC-203
EARLY CHILDHOOD CARE AND EDUCATION (ECCE)

Course Objective

To engage with contemporary positioning of Early Childhood Care and Education and to provide the guided curricular framework for effective implementation of early childhood development programs.

UNIT -1 **(8 Sessions)**

Development of the preschool child - Physical and motor development, social development, emotional development, cognitive development, personality development.

UNIT -2 **(7 Sessions)**

Childhood Education- Principles, philosophy, needs, objectives and importance of early childhood education, effect of early schooling on the physical and mental growth of the child.

UNIT -3 **(6 Sessions)**

Contribution of the following philosophers and educationist: Rousseau, Froebel, Montessori, Ravindranath Tagore, M. K. Gandhi.

UNIT -4 **(8 Sessions)**

The Nursery School - Different Activities Play, Dramatization, Creative Activities, Story Telling, Music and field trips, their Uses and importance.

UNIT-5 **(8 Sessions)**

Different Developmental Programs for Early Childhood development, care and education- Involvement of Government, N.G.O. and parent in childhood care and education programs i.e. Pre-school centers, Day care centers, ICDS anganwari.

Course outcomes:

After undertaking the course students will be able to:

- Explain the contemporary emergence and positioning of Early Childhood Care and Education along a theoretically guided curricular framework
- Plan ECCE programs keeping in mind socio-cultural diversity and knowledge of local and global methods and practices
- Design strategies for effective capacity building and implementation of early childhood development programmes

Suggested Readings:

1. Child Behaviour and Development by B Kuppaswamy, Vikas Publishing House, Ghaziabad.
 2. Child Development by Hurlock -- McGraw Hill, New York.
 3. Fundamentals of Educational Research by R.A. Sharma - McGraw-Hill International Editions.
- Suggested Readings:

3. Cannella, G. S., &Viruru, R. (2004). *Childhood and postcolonization: Power, education, and contemporary practice*. New York: RoutledgeFalmer.
4. Carr, M. (2001). *Assessment in Early Childhood Settings*. London: SAGE Publications.
5. Datta, V. (1995). *Home away from home: family daycare in India*. In *Suraksha: Early Childhood Care and Education*. Madras, India: MS Swaminathan.
6. Gopal, A. K. (1998). *Creche services in India- an evaluation*. New Delhi, India: NIPCCD.
7. Hutt, S. J., Tyler, S., Hutt, C., & Foy, H. (1989). *Play, exploration and learning*. London: Routledge.
8. Kaul, V. (2002). *Early childhood care and education*. In R. Govinda (Ed.), *India*
9. *Education Report: A profile of Basic Education* (pp. 23-34). NIEPA: Oxford University Press.
10. Melhuish, E., & Petrogiannis, K. (2006). *Early Childhood Care and Education:*
11. *International Perspective* (pp. 133-149). Oxon: Routledge.
12. Singh, A. (Ed.). (2015). *Foundations of Human Development: Lifespan Approach*. Orient Blackswan.
13. Swaminathan, M. (1985). *Who cares? A study of childcare facilities for low-income*

Website Sources:

- http://cbseacademic.nic.in/web_material/Curriculum20/publication/srsec/842%20Resource%20material-Early%20Childhood%20Care%20&%20Education%20XI.pdf
- https://wcd.nic.in/sites/default/files/national_ecce_curr_framework_final_03022014%20%282%29.pdf
- <https://www.heart-resources.org/wp-content/uploads/2015/05/Early-Childhood-Development-Topic-Guide.pdf>
- <https://www.pearsonhighered.com/assets/samplechapter/0/1/3/2/0132853337.pdf>

IFTM University, Moradabad
Course Code: BHSC-204
SANITATION AND HYGIENE

Course Objectives

- To understand the importance of good hygiene in everyday life and connect the importance of good hygiene and good health
- To protect human health by providing a clean environment that will stop the transmission of disease, especially through the fecal–oral route.

UNIT- 1 **(8 Sessions)**

Health- Concept of positive health, good health, mental health, school health, Factors affecting Health.

UNIT-2 **(6Sessions)**

Hygiene- School hygiene and industrial hygiene, Health Hazards of industrial worker and safety measures.

UNIT-3 **(7 Sessions)**

Infection Diseases -- Symptoms, causes, care, and treatment.

UNIT -4 **(8 Sessions)**

- **Water, food borne diseases-**(cholera, dysentery, tuberculosis, hepatitis, diarrhea),
- **Air borne and viral infection** (influenza, cold, pneumonia, polio, measles, mumps),
- **Insect and rodent agencies** (Malaria, Plague, Dengue),
- **Direct contact through cuts and abrasions** (skin disease, conjunctivitis, leprosy, tetanus).

UNIT-5 **(8 Sessions)**

Food Sanitation-Control and inspection, Planning and implementation of training program for health personal. Public health organization- W.H.O., central and state health activities, immunization programs (Triple vaccine – smallpox, polio, typhoid, cholera, tuberculosis, AIDS and hepatitis).

Course outcomes:

After undertaking the course students will be able to:

- Defines the concepts of hygiene sanitation.
- Understands the importance of personal hygiene.
- Practicing proper hygiene will keep your body healthy while giving you confidence.
- Change their current hygiene behaviour and continue better hygiene practices in the future
- Learn to observe, communicate, cooperate, listen and carry out decisions about hygienic conditions and practices for themselves, their friends and younger siblings whose hygiene they may care for (skills they may apply in other aspects of life);
- Can explain about communicable diseases.

Suggested Readings:

1. Prazier, W. C. and Westhoff, D. C. 4th edition, Food Microbiology, McGraw Hill Inc.
2. Jay James. N. 3rd edition, modern Food Microbiology, Van Nestrand Reinhold Company Inc.
3. Peleezar, M.I. and Reid, K. D. Microbiology, McGraw Hill Company, New York.
4. General Hygiene & Environmental Health, Edition: 1st, Publisher: OSMU, Editors: Nadvorniy M.M. 2005.
5. Norman G. Marriott and Robert B. Gravani Principles of Food Sanitation Fifth Edition, Library of Congress Control Number: 2005923527 ISBN-10: 0-387-25025-5 eISBN: 0-387-25085-9, © 2006 Springer Science+Business Media, Inc.

Website Sources:

- <https://www.medicalnewstoday.com/articles/150999#types>
- <https://www.hsph.harvard.edu/ecpe/industrial-hygiene-keeping-workers-healthy-and-safe/>
- <https://www.mayoclinic.org/diseases-conditions/infectious-diseases/symptoms-causes/syc-20351173>
- <https://www.skinsight.com/disease-groups/foodborne-waterborne-diseases#:~:text=Foodborne%20and%20waterborne%20diseases%20are,depending%20on%20the%20bacteria%20involved.>
- https://en.wikipedia.org/wiki/Airborne_transmission#:~:text=Many%20common%20infections%20can%20spread,and%20possibly%20respiratory%20syncytial%20virus.
- <https://www.verywellhealth.com/airborne-viruses-4797457>

IFTM University, Moradabad
Course Code: BHSC-205
INTRODUCTION TO TEXTILES

Course Objective

To provide students with the knowledge of the structure, production and properties of natural and synthetic fibers and to familiarize them with the various yarn and fabric production techniques.

UNIT -1 (8 Sessions)

Introduction to Textiles- Classification of Textile fibers and their general properties, Importance of textiles in day to day life, Factors affecting selection of fabric for various end uses.

UNIT -2 (8 Sessions)

Fibers- Natural cellulosic fibers (Cotton, Flax and Jute), Natural Protein fibers (Silk and Wool), Synthetic fibers (Rayon, Acrylic, Nylon and Polyester).

UNIT -3 (8Sessions)

Study of Yarns-Simple yarn (Single ply, cord, crepe, staple, filament, balanced, unbalanced, types of twist and effect of twist on fabric performance), Complex yarns: Slub, flock/ flack, Bounce / loop, ratine, loop, knot, grandelle chenille, Methods of spinning.

UNIT -4 (6 Sessions)

Fabric Construction- Study on Hand loom, Basic weaves used in fabric construction and classification of weaves, Plain weaves and variations, Twill weaves and variations, Floating weaves, Methods of fabric construction (netting, knotting, felting, braiding and bonding).

UNIT -5 (8 Sessions)

Fabric Finishes-Importance and classification, Methods and uses of Mechanical (tentering, calendaring, napping, sanforizing singeing), Chemical (Mercerizing, bleaching Additive- Sizing) Special finishes (Water proof, moth proof, acid and basic finishes).

Course outcomes:

After undertaking the course students will be able to:

- Learn about various techniques and process of designing textiles
- Study about various dimensions of yarns like types of yarns, yarn size and twist and yarn calculations for weaving, preparation of yarn for weaving
- Gain extensive knowledge on weaving primitive looms, basic loom and its parts, accessories required for weaving.
- Get acquainted with the basic weaves-plain, twill and satin and creating variety in weaves with different color and weave effects
- Learn about knitting
- Understand the structure and production techniques of various natural and manmade fibers.
- Describe the physical and chemical properties of fibers.

- Understand the various conventional and non-conventional techniques of yarn spinning.

Suggested Readings:

1. Selection of Fabric and Care by Wingatic Iqabel M.
 2. Essentials of Textiles by Joseph, Moyory: 3. Introductory Textiles Science by Joseph, Moyory. I
- Suggested Readings:
3. Brackenbury, T. (2005).Knitting Clothing Technology, Blackwell Science Publishers
 4. Eric, O. (1975).Spun Yarn Technology, Butterworth Publication.
 5. Gohl, E. P. G. and Vilensky, L. D. (1983) Textile science. Melbourne: Longman Cheshire.
 6. HorrockA.R. and Anand, S.C. (2000). Handbook of Technical Textiles, Cambridge: Woodhead Publishing.
 7. Rastogi, D. and Chopra, S.(Ed) (2017)Textile science, India: Orient Black Swan Publishing Limited.
 8. Spencer, D.J. (2005) Knitting Technology: A Comprehensive Handbook and Practical Guide, 4th ed.Cambridge: Woodhead Publishing.
 9. Schwartz, P. (1979) Fabric Forming Systems, School of Textiles, North Carolina State University.
 10. Sekhri S. (2016) Textbook of Fabric Science: Fundamentals to Finishing, 2E, Delhi:PHILearning Private Ltd.
 11. Trotman, E. R. (1984) Dyeing and Chemical Technology of Fibers, Sixth Edition,England:Charles Griffin and Company Ltd

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- https://www.brainkart.com/article/Fabric-Finishes---Types---Basic-finishes,-Functional-finishes_1847/
- <https://en.wikipedia.org/wiki/Weaving>
- <http://textilescommittee.nic.in/writereaddata/files/h1coorectred%20and%20final%20handloom%20frame%20loom.pdf>
- https://www.researchgate.net/profile/Balamani_Jeevanandham/publication/304232601_CGTPaperII/links/576a115008ae3bf53d3325ec/CGTPaperII.pdf

IFTM University, Moradabad
Course Code: BHSC-206
LIFE SPAN DEVELOPMENT

Course Objective

The main objective of this course is to explore how we change and grow from conception to death.

UNIT -1 **(8 Sessions)**

Introduction to Child Development- Concepts, need, scope and principles of child development. Relationship of child development with other discipline.

UNIT -2 **(8 Sessions)**

Prenatal Period – Prenatal developmental stages, prenatal diagnostic methods & birth process. Conditions affecting prenatal development, Hazards during prenatal development.

UNIT -3 **(8 Sessions)**

Post natal care of mother-Types of deliveries. Care of neonate normal, Low Birth Weight and Premature. Infant feeding – Mother’s Milk and Supplementary Feeding.

UNIT -4 **(6 Sessions)**

Infancy (0-2 Years)- Definition, physical growth and development in infancy, (Reflexes, emotional states, physical growth and motor development, Brain)sensory and perceptual development during infancy, Definition development of different senses, developmental tasks of infancy, milestones and highlights of development, factors influencing development.

UNIT 5 **(8 Sessions)**

Social, Emotional and Cognitive Development during infancy, Acquisition of language ability and speech development.Characteristics, Activities, Vocalization of infants, Importance of early stimulation.

Course outcomes:

After undertaking the course students will be able to:

- Describe physical growth and development in infants and toddlers
- Explain cognitive development in infants and toddlers
- Explain emotional and social development during infancy
- Explain gross and fine motor skills in infants
- Explain the merits of breastfeeding
- Discuss the importance of nutrition to early physical growth, including nutritional concerns for infants and toddlers such as marasmus and kwashiorkor

Suggested Readings:

1. Kuppaswamy B., Child Behavior and Development, Vikas Publishing House, Ghaziabad.

2. Hurlock, Child Development, McGraw Hill, New York. 3. Grover Sarla, Child Development, Print well Publishers, Jaipur.
3. American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Washington, DC: Author.
4. Bartlett, Z. (2014). The Hayflick limit. *Embryo Project Encyclopedia*.
5. Barnes, S. F. (2011a). Fourth age-the final years of adulthood. *San Diego State University Interwork Institute*.
6. Barker, (2016). *Psychology for nursing and healthcare professionals*. Thousand Oaks, CA: Sage.
7. Baltes, P. B. (1987). Theoretical propositions of life span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23, 611-626.

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- https://gov.mb.ca/fs/pwd/pubs/js_manual/k_undestand_dev.pdf
- https://catalogue.pearsoned.ca/assets/hip/us/hip_us_pearsonhighered/samplechapter/0205989365.pdf
- https://people.umass.edu/mva/pdf/Neonatal_Reflexes_07.pdf
- <http://www.yorku.ca/bakerj/Infant%20reflexes.pdf>
- <http://embryo.asu.edu/handle/10776/8237>
- Retrieved from <http://calbooming.sdsu.edu/documents/TheFourthAge.pdf>

IFTM University, Moradabad
Course Code: BHSC-251
FOOD SCIENCE (PRACTICAL)

List of Practical

1. Weights, measures. Equivalents

2. Food preparation

- a) Beverages - tea, coffee, fruit and milk.
 - b) Vegetables - Methods of retaining colour and texture-currys dry Vegetables cutlets and baked.
 - c) Cereals - Starch cookery, rice-boiled and variations, flour mixture batters and dough. Samosas and mathries, Italian Pastas.
 - d) Pulses - dal vadas, sprouts and stuffing.
 - e) Milk - Puddings, chaina , Panir and Khoya preparations.
 - f) Custards - soft, steamed and baked.
 - g) Soups - Plain, cream of tomato and Veg. Soup
 - h) Nuts - Peanut chikki, til laddoo.
 - i) Baked products - Cakes, biscuits, apple pie and patties.
 - j) Frozen desserts - Souffles and ice creams.
2. Demonstration of table setting.

Suggested Readings:

1. Introductory Foods: Hughes and Bennion.
2. Food Science - B. Srilaxmi.
3. Principles of Food Preparation: Gladys C Peckham.
4. 4. Experimental study of foods Griswold.
5. Bawa. A.S, O.P Chauhan etal. Food Science. New India Publishing agency, 2013
6. Roday,S. Food Science, Oxford publication, 2011.
7. B. Srilakshmi, Food science, New Age Publishers,2002
8. Meyer, Food Chemistry, New Age,2004
9. De Sukumar., Outlines of Dairy Technology, Oxford University Press, 2007

Website Sources:

- <https://www.infoplease.com/math-science/weights-measures/us-metric-cooking-conversions>
- https://en.wikipedia.org/wiki/Table_setting
- <https://www.webstaurantstore.com/blog/2852/restaurant-table-settings.html>

IFTM University, Moradabad
Course Code: BHSC-252
EARLY CHILDHOOD CARE AND EDUCATION (PRACTICAL)

Course Objective

To understand about principles of curriculum framework along with understanding of community orientation and socio-cultural diversity for optimal development of young children in ECCE programs.

List of Practical

1. Visit to ECE and writing of Report.
2. Visit to Nursery Schools and submission of report.
3. Recording individual children's physical motor, language, intellectual, and social-emotional skills.
4. Plan and implement developmentally appropriate, child-centered activities which are sensitive to diverse contextual needs
5. To observe existing care programs (crèche, daycare) and get familiarized with guidelines in accordance with contemporary and prevalent policies.
6. Design learning environment and teaching learning resources for early childhood programs; Planning spaces and identifying materials for play and joyful learning
7. Organizing activities and resources for curricular goals; Developing tools, play materials and classroom display.

Course outcomes:

After undertaking the course students will be able to:

1. Develop skills to use principles of pedagogy and curricular framework for optimal development through ECCE programs
2. Develop ways to address socio-cultural diversity through local and global methods and practices
3. Devise and develop strategies for effective capacity building, implementation and assessment of early childhood care and education programs
4. Acquire necessary skills to work effectively with families and form collaborative relationships with them

Suggested Readings:

1. Brazelton, B. T. & Greenspan S. I., (N.D.). The irreducible needs of children: What Every Child Must Have to Grow, Learn, and Flourish.
2. Clarke P. (2001). Teaching & Learning: The Culture of Pedagogy. New Delhi: Sage publications.
3. Gammage, P. (2008). The Social Agenda and Early Childhood Care and Education. Can We Really Help Create a Better World? Online Outreach Paper 4. The Hague. The Netherlands. Bernard van Leer Foundation
4. Gupta, A. (2006). Early Childhood Education, Postcolonial Theory, and Teaching Practices in India: Balancing Vygotsky and the Veda. New York: Palgrave
5. Mohite, P. & Prochner, L. (2009). Early Childhood Care and Education: Theory and Practice. New Delhi: Concept Publishing Company

IFTM University, Moradabad
Course Code: BHSC-301
APPLIED LIFE SCIENCE

Course objectives

To enable the students

- To gain knowledge on gardening.
- To familiarize about general information about soil.
- To acquire skills in cultivation of different garden plants.
- To Know about basic knowledge about plant

UNIT 1

(8 Sessions)

Soil: General knowledge of soil, Selection of soil for establishing a new garden, Methods for making of soil for more fertilization and conservation and erosion of soil.

UNIT 2

(12 Sessions)

Manure and Fertilizers: Importance of manure, Methods for application of manures and fertilizers, Preparation of compost of manures and Bio-fertilizers.

UNIT 3

(14 Sessions)

Plants: Elementary idea of the classification of Plant Kingdom, Parts of a typical angiosperm plant, Pollination, fertilization, Dispersal of seeds and life cycle of a plant., Different parts of plant useful for human welfare and daily human life.

UNIT 4

(12Sessions)

Herbal and Medicinal plants: General Knowledge of gardening, Planting, Maintenance and therapeutic uses of herbal and medicinal plants.

UNIT 5 (8 Sessions)

Kitchen Gardening: Scope and Layout of Kitchen gardening.

Cultivation of vegetables-Tomato, Cauliflower, Lady Finger, Brinjal, Chilies, Carrot, Radish and Spinach.

Course outcomes:

After undertaking the course students will be able to:

- Differentiate between Manure and Fertilizers
- Select best soil for kitchen garden
- Create awareness about how plant parts are useful for human welfare.
- To plan layout of kitchen garden.
- Aware about application of manures and fertilizers

Suggested readings:

1. Handbook of Horticulture by K.L.Chadha, ICAR Publication.
2. Plant Propagation, Principles and Practices by H.T.Hartman and D. Kester, Prentice Hall of India Pvt. Ltd.New Delhi.
3. Complete gardening in India by K.S.Gopaldaswamiinger, Messers Nagaraj Co. Madras.
4. Richard. N. Arteca, 2015, Introduction to Horticultural Science, Cengage learning.
5. Pat Lucke Morris and Sigrun Wolff Sapphire, 2011, Growing Bonsai Indoors, Brooklyn Botanic Garden.
6. Jenny Hendy, 2015,Topiary: A Practical Guide to the Art of Clipping ,Training and Shaping Plants, Anness Publishing.
7. Nina Greene, 2014, Garden Styles: Introduction to 25 Garden Styles, Speedy publishing LLC.
8. Marietta Loehrlein, 2014, Sustainable Landscaping: Principles and Practices, Taylor and Francis Group,LLC.
9. V.L. Sheela, 2011, Horticulture, MJP Publishers, Chennai.
10. Deena Beverley, 2004, Practical Gardening, Paragon book,UK o K.Manibhushan Rao, 2005, Textbook of Horticulture, Mac Millan India Ltd, New Delhi.

Website Sources:

- <https://www.gardendesign.com/soil/>
- <https://www.gktoday.in/gk/general-knowledge-of-soil-nature-texture-soil-ph-and-soil-horizons/>
- <https://www.toppr.com/guides/biology/crop-production-and-management/manure-and-fertilizers/#:~:text=Manure%20is%20a%20natural%20fertilizer,a%20high%20content%20of%20nutrients.>
- <https://www.jagranjosh.com/general-knowledge/classification-of-plant-kingdom-1453445359-1>
- <https://courses.lumenlearning.com/boundless-biology/chapter/pollination-and-fertilization/>
- <https://science4fun.info/life-cycle-of-plants/>

Course Code: BHSC-302
CONSUMER ECONOMICS

Course objectives

- To enlighten students about the duties and responsibilities of a wise consumer
- To provide a firm grounding in consumer behaviour
- To impart knowledge on consumer acts and regulations.

UNIT 1 (4 Sessions)

Consumer economics- Meaning and definitions, role of consumers in economy, rights and responsibilities of Consumers.

UNIT 2(14 Sessions)

Family income: Types, sources, use of family income, budgets, maintaining accounts, advantages of maintaining household accounts. Factors influencing expenditure pattern, family savings and investments- need, role.

UNIT 3 (14 Sessions)

Market & Consumer decisions: Basic concepts, classification and function of markets, Market segmentation, Channels of distribution. Consumer buying habits, Consumer decision making- Good buymanship, Factors affecting Consumer decisions.

UNIT 4 (14 Sessions)

Consumer Problems & Consumer Protection Consumer Buying Problems: Adulteration, Faulty weights and measures, Other Malpractices in market, Pricing, Legal – guarantee and warrantee contracts, installment buying. Consumer protection services: Standardization and Quality control measures (ISI, FPO, AGMARK, ISO Certification and others) Buying Aids- labels, packaging, advertising.

UNIT 5 (8 Sessions)

Consumer Education: Meaning, needs, objectives. Empowerment of consumers through consumer education, consumer awareness. Consumer Organizations (functioning and role), Legislation – important laws for Consumer Protection.

Course outcomes:

After undertaking the course students will have knowledge of:

- Having an opportunity to learn about the practical aspects of money management. The knowledge of this aspect would be useful to them in planning their future status as family leaders in dealing with these vital issues.
- About the importance of money savings and investment etc so that they can enlighten their elders in managing the family income scientifically.
- Practical aspects of the market and the way in which they can use their knowledge in developing appropriate buying strategies and in learning how to face the problem of consumer grievances etc.
- The learning of the various aspects specified in the course contents will help the students in developing them as good managers of family income and also as wise customers in the market.

- The tools of redressal of consumer grievances and the legal steps involved in consumer protection have very useful sources of information in facing the problems as consumers and in fighting against unfair trade practices of the traders and manufacturers.

Suggested Readings:

1. A problem of Consumer's in Modern india by Sarkar A. -Discovery Publishing house.
2. The Economics of Consumption by Cochrane W.W and Bell C.S Mc Grew Hill.
3. Law of consumer's protection by Singh Gubax- Jaipur Bharat Law Publishers.
4. Consumer behaviour,Suja Nair, 2002,Sultan Chand and sons, New Delhi.
5. Consumerism a growing concept, Sethi.M,Seetharaman .P 1994.Phoenix publishers, New Delhi.
6. Consumer behaviour,Sharma.S.S,1992, Arihant Publishing. 29
7. The Indian Economy: Poverty and development, Chaudhri,P.K, Vikas Publishers,1974.
8. Consumerism strategies and tactics, Sethi.M,Seetharaman .P, 2001, CBS publishers , New Delhi.

Website Sources:

- <https://en.wikipedia.org/wiki/Consumer>
- <https://www.yourarticlelibrary.com/family/family-income-types-money-real-and-psychic-income/47908>
- <https://www.preservearticles.com/education/advantages-and-ways-of-keeping-household-accounts/13149>
- [http://www.dspmuranchi.ac.in/pdf/Blog/MKTG2112-End-Exam-notesp\(1\).pdf](http://www.dspmuranchi.ac.in/pdf/Blog/MKTG2112-End-Exam-notesp(1).pdf)
- <https://www.legalmatch.com/law-library/article/consumer-issues.html>
- https://en.wikipedia.org/wiki/Consumer_education#:~:text=Consumer%20education%20is%20the%20p%20reparation,%20standard%20trade%20practices%20etc.

IFTM University, Moradabad
Course Code: BHSC-303
FAMILY DYNAMICS AND CHILD DEVELOPMENT

Course Objectives

- To gaining insight into one's self and others;
- To acquiring knowledge about human development and behavior in the family setting over the life course;
- To understanding marital and family patterns and processes; acquiring interpersonal skills for present and future family roles;

UNIT 1 (8 Sessions)

The Family- Definitions, functions, types (with reference to India), Family life cycle – stages and Sub- stages (beginning, expanding, contracting) ,Changing trends in India.

UNIT 2

(8 Sessions)

Marriage - Marriage as an institution: Goals Rituals, Functions, Changes and Challenges, Mate selection: Factors Influencing Mate selection, Considerations of Endogamy and Exogamy. Changing Trends, Arranged and Personal Choice of Mates.Preparation of marriage, Social and Emotional Issues, Financial Concerns and Exchanges, Guidance and Counseling, Marital Adjustment.

UNIT 3

(8 Sessions)

Family interaction and communication- Importance, Types and Methods of improvement, Areas of adjustment within the family life cycle.

UNIT 4

(7 Sessions)

Families with problems- Families with marital disharmony and disruption, dimension, Casual Factors, Families in distress, Violence and Abuse, Dowry Victimization, Violence against women.

UNIT 5

(8 Sessions)

Intervention for families in trouble - Scope, Needs and Assessment, Counseling: Premarital and Marital. Welfare and rehabilitation Policies and Programs.Public awareness and education programs.

Course outcomes:

After undertaking the course students will be able to:

- Understand different concepts related to marriage
- Know the different forms of marriage
- Aware of marriage systems among different religions
- Know the areas, obstacles and techniques of marital adjustments
- Understand the changing trends in gender roles
- Know about alternative styles of marriages
- Aware of different Laws related to marriage

- Know the need and importance of premarital, marital and family counseling
- Understand the concept of family life cycle and changes in its characteristics and functions
- Aware of the causes for marital dissolution, divorce and family under distress
- Understand the concept of family crisis, stress and coping.
- Recognize the need and importance of sex education and family life education

Suggested Readings:

1. Calvin S. Hall, Gardner Lindsey, John B. Campbell, Theories of personality, John Wiley & Sons
2. Elizabeth B.Hurlock, Child Development, Tata Mc-Graw Hill edition, Sixth edition.
3. Rajamal P. Devdas, A textbook of child development, Macmillan India Ltd.
4. Devadas, R and Jaya, N.(2005),A Text book on Child development.
5. Hurlock,E.B.(2008), Developmental Psychology–A life span approach, 5thEdn.
6. Suriakanthi,A.(2009).Child Development –An Introduction, 4thEdn. Kavitha pub Text Books for Enrichment.
7. Marshall,J andStuartS (2001)ChildDevelopment, HeinemannEducationalPub.
8. Minett, P.(2005).ChildCare&Development, 5th Edn.John MurrayPub. Ltd.
9. Walsh.A. B, De Florio. L,Burnham .M .(2017). Introduction to Human Development and Family studies Routledge,NewYork.
10. Ferguson, Susan (2007). Shifting the Center: Understanding Contemporary Families
11. DeGenova, Mary Kay & F. Philip Rice (2007). Intimate Relationships, Marriage and Families.
12. Carter, B. & McGoldrick, M. (Eds.), (2005). *The expanded family life cycle: Individual, family, & social perspectives, 3rd edition*. New York: Allyn & Bacon.

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- <https://www.yourarticlelibrary.com/family/family-life-cycle-3-main-stages/47660>
- <https://en.wikipedia.org/wiki/Marriage>
- <https://theinternationalpsychologyclinic.com/the-10-most-common-family-problems-and-how-to-deal-with-them/>
- http://www.scmhabra.org/eresources/HMDA-Sem-4_Namrata_marital%20counseling.pdf
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4462781/>
- <https://www.un.org/womenwatch/daw/egm/vaw-gp-2005/docs/experts/kishwar.dowry.pdf>

IFTM University, Moradabad
Course Code: BHSC-304
FABRIC AND LAUNDRY SCIENCE

Course Objectives

To course aims to impart to students knowledge and understanding of the chemistry, mechanism and application process of various textile finishes. It aims to enhance the awareness of future trends in textile finishing.

UNIT 1 (8 Sessions)

Introduction- Principles of laundering and their application on laundry equipment. Water- Hard and soft water, techniques of removal of hardness caused by hard water.

UNIT 2 (8 Sessions)

Soaps and Detergents- Kind and composition, manufacturing, functioning and properties of laundry - Soaps and Detergents.

UNIT 3 (14 Sessions)

Blues- Types, composition, uses and action of blues. Stiffening agents- composition, sources, preparation and application of various stiffening agents. Starches Action of Starches, Types of Starches Bleaches, Oxidizing Bleaches, Reducing Bleaches, Optical Bleaches.

UNIT 4 (12 Sessions)

Stain removal & Types of Stains- Vegetable Stains, Animal Stains, Grease Stains, Mineral stains, Dye Stains, Grass stains, perspiration Stains, Scorch Stains. Methods of removing stains.

UNIT 5 (12Sessions)

Fabric Finishes- Importance and classification. Method and uses. Physical - singing, napping, brushing, shearing, sizing, shrinking etc. Chemical – bleaching, mercerizing etc. Special finishes – Wrinkle resistant, water resistant and repellent, flame retardant crease resistance.

Course outcomes:

After undertaking the course students will be able to:

- Understand the methods of application of finishes, laundry equipment and blues on different textile substrates
- Describe the Stain removal techniques.
- Explain about soap and detergents.
- Understand the chemistry and mechanism of action of application of various finishes

Suggested Readings:

1. Household Textiles and Laundry work by Deulkar Durga and AtmaRam and sons. Kashmiri Gate Delhi – 6.
2. Text Book of clothing Textiles and Laundry by Gupta Sushma, Kalyani Publishers New Delhi.

3. Textiles Fibre to fabric by Corbman B. MC Graw Hill, New York.
4. Tortora, P.G. Understanding Textiles, Latest Edition, New York, Mac. Millan Pub. Co. Inc.
5. Wynne. A. 1997. Textiles, Mac Muller Education Ltd., London
6. Hall, A.J. Textile Finishing. Heywood Books, 1966. London
7. Hall, A.J. The Standard Handbook of Textiles. Newness-Butter-worths, 1975, London.
8. Hollen, N. and Saddler, J. Textiles. Macmillan Company, 1973. New York.
9. Anderson, F.D. 1974. Tie-dyeing and Batik, Octopus Book Limited., London.
10. Grosicki, Z. Watson's 1988. Textiles Design and Color. Universal Publishing Corporation, Bombay.
11. Rouette, H.K. (2001) Encyclopedia of Textile Finishing, Volumes 1 to 3, Berlin, Springer \
12. Schindler, W.D. and Hauser, P.J. (2004) Chemical Finishing of Textiles, The Textile Institute, England, Woodhead Publishing Ltd.

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- <https://byjus.com/jee/hardness-of-water-types-and-removal/#:~:text=We%20can%20remove%20this%20hardness,is%20converted%20to%20soft%20water>
- [https://en.wikipedia.org/wiki/Bluing_\(fabric\)](https://en.wikipedia.org/wiki/Bluing_(fabric))
- <https://hmhub.me/laundry-agents/>
- https://en.wikipedia.org/wiki/Stain_removal
- http://www.brainkart.com/article/Care-And-Maintenance-Of-Garments---oxidizing-bleaches_1902/

IFTM University, Moradabad
Course Code: BHSC-305
NUTRITIONAL BIO- CHEMISTRY

Course Objectives

To augment the biochemistry knowledge acquired at the undergraduate level and to understand the basic genetics, carbohydrate, lipid and amino acid metabolism

UNIT 1 **(8 Sessions)**

Introduction to Biochemistry

Definition, objectives, scope and inter-relationship between biochemistry and other biological sciences

UNIT 2 **(12 Sessions)**

Carbohydrates

- Definitions, classification, structure and general properties of:
- Monosaccharides-glucose, fructose, galactose, ribose
- Disaccharides – maltose, lactose, sucrose
- Polysaccharides – dextrin, starch, glycogen
- Digestion and absorption

UNIT 3 **(12 Sessions)**

Lipids

- Definitions and classification of lipids
- Types and properties of fatty acids
- Composition and properties of fats
- Significance of acid value, iodine value and saponification value
- Digestion and absorption

UNIT 4 **(12 Sessions)**

Proteins

- Definition, classification, structure of amino acids
- Essential and non-essential amino acids
- Definition, classification, elementary knowledge of structure of proteins
- Introduction to Enzymes, Co-enzymes, Enzyme Inhibition
- Digestion and absorption

UNIT 5 **(10 Sessions)**

Vitamins and Minerals - Structure and biochemical role:

- Fat soluble vitamins – A, D
- Water soluble vitamins – B1, B2, niacin, pyridoxine, folic acid, B12 and C
- Biological role and occurrence of inorganic elements – iron, calcium, phosphorous, iodine, selenium and zinc

Course outcomes:

After undertaking the course students will be able to:

- Explain the digestion, absorption and transports in blood circulation of nutrients.
- list the organs in the digestive system and steps of the digestion
- Summarize the roles of hormones in digestion.
- Define the roles of carbohydrates, protein and lipids.
- Explain the definition and classifications of lipids, protein and carbohydrates.
- Define the structure and functions of proteins.
- Describe the roles of vitamins in the metabolism.

Suggested Readings:

1. Text book of Biochemistry by E.S West, W.R Todd, H.S Mason and J.T Van, Amarind Publishing Co. Pvt. Ltd., 4th Ed.
2. Principles of Biochemistry by A. White, P. Handler, E. L Smith & Stelten D., McGraw Hill Book Co., 2nd Ed.
3. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2000): 25th Ed. Harpers Biochemistry. Macmillan Worth Publishers.
4. Nelson, D.L. and Cox, M.M. (2000): 3rd Ed. Lehninger's Principles of Biochemistry, Macmillan Worth Publishers.
5. Devlin, T.M. (1997): 4th Ed. Text book of Biochemistry with Clinical Correlations, Wiley Liss Inc
6. Conn, E.E., Stumpf, P.K., Bruening, G. and Doi, R.H. (2001): 5th Ed. Outlines of Biochemistry, John Wiley and Sons.
7. Voet, D. Voet, J.G. and Pratt, C.W. (1999). Fundamentals of Biochemistry.
8. King, E.J. and Wootton, I.D.P. (1956). 3rd ed. Micro-Analysis in Medical Biochemistry. J and A Churchill Ltd.
9. Plummer, D.T. (1987). 3rd ed. An Introduction to Practical Biochemistry. McGraw-Hill Book Co.
10. Color Atlas of Biochemistry (2nd or 3rd Edition) by Koolman and Roehm (Thieme, ISBN-10: 1588902471, or ISBN-10: 3131003731).
11. Nutrition and Human Metabolism (5th Edition) by Gropper, Smith and Groff (Wadsworth Cengage Learning, ISBN-13: 978-0-495-11657-8)

Website Sources:

- <https://www.anme.com.mx/libros/Principles%20of%20Human%20Nutrition.pdf>
- <https://byjus.com/biology/enzymes/>
- <https://www.slideshare.net/DrVandanaMahajani/functions-of-food-and-definitions>
- <https://www.slideshare.net/arathanakannan/food-energy-43426273>
- <https://www.toppr.com/guides/biology/biomolecules/proteins/>
- <https://courses.lumenlearning.com/wm-biology1/chapter/reading-types-of-carbohydrates/>
- <https://byjus.com/biology/lipids/>
- <https://en.wikipedia.org/wiki/Biochemistry>

IFTM University, Moradabad
Course Code: BHSC-306
PROGRAMMES FOR RURAL AND URBAN DEVELOPMENT

Course Objectives

To familiarize with the government policies and programmes based on various approaches for improving nutritional and health status of the community. It will also expose them to the concept of nutritional surveillance and the process of programme planning in public health nutrition.

UNIT 1 (10 Sessions)

Five year Plans-History of Planning in India. Programs to enhance food production. Thrust on Agriculture. National Food Production programs ever since independence.

UNIT 2 (12 Sessions)

Poverty Alleviation Efforts -Programs for poverty alleviation for rural and urban areas, employment generation and social inputs. Concentration of efforts in the 1980's. Current programs for rural and urban poor.

UNIT 3 (14 Sessions)

Programs for Women and Children -Women as target group- specific measures for women and children – DWCRA, ICDS, IMY, Current programs for women as implemented by the different and Ministries and departments. Shift from welfare approach to development to empowerment approach.

UNIT 4(8 Sessions)

Role of NGO's - Need for participation of Non – Government Organization's in developing efforts. Encouragement given to NGO's – Role of CAPART.

UNIT 5 (8 Sessions)

Appraisal of the efforts - Examining the impact of the developmental efforts in selected rural and urban areas.

Course outcomes:

After undertaking the course students will be able to:

- Become familiar with the various approaches and strategies for improving nutritional and health status.
- Get exposure to various Government policies and programmes aimed at improving the nutritional and health status of the population
- Acquire knowledge about the process of planning public health nutrition programmes

Suggested Readings:

1. India's rural problems by Prasad, K.N., New Delhi, concept publishing co.
2. Indian Economy, Problems of Development and Planning Madras by Agarwal, A.K., Wiley Eastern Ltd.
3. Modernization and Rural Development by Upadhyay H.C., New Delhi, Anmol Publication.
4. Gibney M.J., Margetts, B.M., Kearney, J.M. Arab, I. eds (2004) Public Health Nutrition, NS Blackwell Publishing.

5. National Nutrition Policy, GOI, New Delhi, 1993
6. Owen, A.Y. and Frankle, R.T. (1986) Nutrition in the Community. The Art of Delivering Services, 2nd ed. Times Mirror/Mosby.
7. Park, K. (2017) Park's Textbook of Preventive and Social Medicine, 24th ed. Jabalpur M/s. Banarsidas Bhanot.
8. Vir, S. (2011). Public health nutrition in developing countries Part-1 & 2. Woodhead Publishing India limited.
9. Wadhwa, A. and Sharma, S. (2003) Nutrition in the Community. A textbook. SCN News, UN ACC/SCN Subcommittee on Nutrition

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- <https://www.makaan.com/iq/news-views/urban-development-schemes-in-india-you-should-know-about>
- <https://byjus.com/commerce/meaning-of-rural-development/>
- https://en.wikipedia.org/wiki/Nongovernmental_organization#:~:text=Service%2Ddelivery%20NGOs%20provide%20public,to%20a%20lack%20of%20resources.&text=Advocacy%20and%20public%2Deducation%20NGOs,%2C%20political%2C%20or%20environmental%20changes.
- https://en.wikipedia.org/wiki/Five-Year_Plans_of_India
- <https://www.aarogya.com/family-health/children-s-health/programmes-a-schemes-for-women-a-child-development.html>

IFTM University, Moradabad
Course Code: BHSC-351
FABRIC AND LAUNDRY SCIENCE (PRACTICAL)

Course Objectives

To course aims to impart practical knowledge and understanding of the chemistry, mechanism and application process of various textile finishes. It aims to enhance the awareness of future trends in textile finishing.

List of practical-

1. Study of laundry equipment's.
2. Laundering of different types of fabrics.
3. Stain removal by different methods.
4. Bleach and starching fabrics.
5. Dry cleaning of fabrics.

Course outcomes:

After undertaking the course students will be able to:

- Understand the methods of application of finishes, laundry equipment and blues on different textile substrates
- Describe the Stain removal techniques.
- Explain about Bleach, starching, soap and detergents.

Suggested Readings:

1. Tortora, P.G. Understanding Textiles, Latest Edition, New York, Mac. Millan Pub. Co. Inc.
2. Wynne. A. 1997. Textiles, Mac Muller Education Ltd., London
3. Hall, A.J. Textile Finishing. Heywood Books, 1966. London
4. Hall, A.J. The Standard Handbook of Textiles. Newness-Butter-worths, 1975, London.
5. Hollen, N. and Saddler, J. Textiles. Macmillan Company, 1973. New York.
6. Anderson, F.D. 1974. Tie-dyeing and Batik, Octopus Book Limited., London.
7. Grosicki, Z. Watson's 1988. Textiles Design and Color. Universal Publishing Corporation, Bombay.
8. Trotman ER: Dyeing and chemical technology of fibers.
9. J. E. Smith "Textile processing-printing, dyeing, Abhishek publishing, 2003.
10. Kate Broughton, Textile Dyeing", Rockport publishers, 1996.
11. . W.S. Murphy, "Textile Finishing", Abhishek publication, 2000.

Website Sources:

- <https://www.cooperativepatentclassification.org/cpc/definition/D/definition-D06F.pdf>
- https://en.wikipedia.org/wiki/Stain_removal
- <https://ncert.nic.in/textbook/pdf/kehe202.pdf>
- https://en.wikipedia.org/wiki/Dry_cleaning
- <https://www.wikihow.life/Dry-Clean>

IFTM University, Moradabad
Course Code: BHSC-352
LIFE SCIENCE (PRACTICAL)

Course objectives:

To enable the students

- To gain knowledge on gardening and its tools.
- To familiarize about general characteristics of soil.
- To acquire skills in cultivation of different garden plants.
- To Know about basic knowledge about plant

List of practical-

1. Practical Knowledge of garden tools.
2. Transplantation of seedlings.
3. Seedbed preparation, sowing of seedling and raising seedlings, weeding, hoeing, irrigation earthing, staking.
4. Give the Identification points and symptoms of common bacterial and viral infected plants.
5. Collection of ornamental plants and vegetables, common Weed.

Course outcomes:

After undertaking the course students will be able to:

- Differentiate between functions of tools used in gardening.
- Select best soil for kitchen garden.
- Create awareness about how plant parts are useful for human welfare.
- To plan layout of kitchen garden.
- Aware about application of manures and fertilizers
- Identify symptoms of common bacterial and viral infected plants.

Suggested readings:

1. Handbook of Horticulture by K.L.Chadha, ICAR Publication.
2. Plant Propagation, Principles and Practices by H.T.Hartman and D. Kester, Prentice Hall of India Pvt. Ltd.New Delhi.
3. Complete gardening in India by K.S.Gopalswamianger, Messers Nagaraj Co. Madras.
4. Richard . N. Arteca , 2015, Introduction to Horticultural Science, Cengage learning.
5. Pat Lucke Morris and Sigrun Wolff Saphire, 2011, Growing Bonsai Indoors, Brooklyn Botanic Garden.
6. Jenny Hendy , 2015,Topiary: A Practical Guide to the Art of Clipping ,Training and Shaping Plants, Anness Publishing.
7. Nina Greene, 2014, Garden Styles: Introduction to 25 Garden Styles, Speedy publishing LLC.
8. Marietta Loehrlein, 2014, Sustainable Landscaping: Principles and Practices, Taylor and Francis Group,LLC.
9. V.L. Sheela, 2011, Horticulture, MJP Publishers, Chennai.

10. Deena Beverley, 2004, Practical Gardening, Paragon book,UK o K.Manibhushan Rao, 2005, Textbook of Horticulture, Mac Millan India Ltd, New Delhi.

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- <https://ncert.nic.in/vocational/pdf/kegr102.pdf>
- http://www.cbseacademic.nic.in/web_material/publication/cbse/31Olericulture-I-XI.pdf

IFTM University, Moradabad
Course Code: BHSC-401
HUMAN DEVELOPMENT – I

Course objective

To understanding how humans learn, mature and adapt. Throughout their lives, humans go through various stages of development. Developmental psychologists study how people grow, develop and adapt at different life stages.

UNIT 1

(10 Sessions)

Early adolescence (12-16 years) Definitions, Puberty- Growth, primary and secondary sexual characteristics, Period of storm and stress, Early and late maturers. Parent child conflict. Identity- definition, body image, positive and negative outcome (role confusion, ego identity).

UNIT 2

(14 Sessions)

Late adolescence (16-18 years) Characteristics, physical, social, emotional, cognitive development, conflict with authority, choosing a career & factors influencing it. Influence of peers, accepting heterosexual relationships. Problems – Drug and alcohol abuse, psychological breakdown, STD, AIDS, teenage pregnancy & other behavior maladjustment.

UNIT 3

(12 Sessions)

Young Adulthood (19-40 years) Definition, Development tasks, significance of the period, responsibilities and adjustment, new family, workplace, parenthood, independence, financial matters. Sex role issues & implication for young adults.

UNIT 4

(10 Sessions)

Middle adulthood (41-60 years) Definition, physical changes (senses & diseases) Menopause, health issues, stresses in middle age, coping with stress at family & work place. Occupation and job satisfaction, preparation for retirement.

UNIT 5

(8 Sessions)

Late adulthood & Ageing (beyond 60 years) Definition, Psychological changes, health problems, cognitive & memory change. Retirement – Effect on self, family, society, identity and friendship. Problems of old age and coping strategies.

Course outcomes:

After undertaking the course students will be able to:

- Describe human development and its three domains: physical, cognitive, and psychosocial development
- Explain key human development issues about the nature of change: continuous/discontinuous, one course/multiple courses, and nature/nurture
- Describe the basic periods of human development

Suggested Readings:

1. Kuppaswamy B., Child Behaviour and Development, Vikas Publishing House, Ghaziabad.
2. Hurlock, Child Development, McGraw Hill, New York.

3. Grover Sarla, Child Development, Print well Publishers, Jaipur.
4. Berk, L. E. (1996). Child development. New Delhi:Prentice Hall.
5. Hurlock, E.B. (2007). Developmental psychology: A life – span approach. New Delhi : Tata McGraw – Hill.
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- <https://www.flexiprep.com/NIOS-Notes/Senior-Secondary/Home-Science/NIOS-Home-Family-and-Home-Science-Ch-17-Language-and-Cognitive-Development.html>
- <https://www.flexiprep.com/NIOS-Notes/Senior-Secondary/Psychology/NIOS-Class-12-Psychology-Chapter-13-Adolescence.html>

Course Objective

To familiarize with the techniques and methods used for cultivation, purification and identification of microbes

UNIT 1 (6 Sessions)

Characteristics of moulds, yeasts and bacteria, useful and pathogenic organisms. Brief history of food microbiology and important micro – organisms in food.

UNIT 2 (8 Sessions)

Primary sources of micro-organisms in foods. Extrinsic and intrinsic parameters affecting growth and survival of microbes.

UNIT 3 (10 Sessions)

Public health hazards due to contaminated foods – food borne infections and intoxication, symptoms, mode and sources of transmission and methods of production. Public health hazards due to contaminated foods.

UNIT 4 (18 Sessions)

Food Preservation: Use of high and low temperature, dehydration, freezing, freeze drying, irradiation in food preservation. Contamination and micro–organisms in the spoilage of different kinds of foods and their preservation. Cereal and cereal products, egg and poultry, milk and milk products, canned foods.

UNIT 5 (12 Sessions)

Microbes used in food biotechnology, fermented foods and their benefits. Indices of food, milk, water sanitary qualities, microbiological criteria of food, water and milk testing (Bacteriological analysis).

Course outcomes:

After undertaking the course students will be able to:

- Understand the morphology and structural features of various micro-organisms.
- Comprehend various techniques used for isolation, purification and controlling the growth of micro-organisms
- Assess the microbial safety of personal hygiene, water, milk and other food products.
- Explain about food preservation techniques.
- Differentiate between food borne infections and intoxication.
- Differentiate between Extrinsic and intrinsic parameters in foods.

Suggested Readings:

1. Text Book of Zoology by P.S Dhami, Pardeep Publication.
2. Food Microbiology by Frazier, William C and Westoff Dennis C, Tata McGraw Will Publish Company Ltd.:
3. Bell, C., Neaves, P. & Williams, A.P. (2005). Food Microbiology and Lab Practice. Wiley Press.
4. Yousef, A.L. (2003). Food Microbiology. A Laboratory Manual. Wiley Inter-Science New Jersey.

5. Benson, H.J. (2002). Microbiological Application. 8th Edition. Tata McGraw Hill.
6. Mortimore & Wallace. (2013). HACCP: A Practical Approach. 3rd Edition. Springer Publication.
7. Cappuccino & Sherman. (2007). Microbiology: A laboratory Manual. 7th Edition. Pearson Education Inc.
8. Hoorfar, J. (2011). Rapid Detection, Characterization and Enumeration of Food Borne
9. Pathogens. American Society for Microbiology, Washington, USA.
10. Drinking Water Specification- Indian Standard. (2012). 2nd Revision. IS 10500:2012.
11. Bureau of Indian Standard, Manak Bhawan, New Delhi, India.
12. Manual of Methods of Analysis of Foods- Microbiological Testing. (2012). Lab Manual 14. FSSAI, GoI, New Delhi.

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- <https://microdok.com/scope-of-food-microbiology/>
- https://en.wikipedia.org/wiki/Nonmotile_bacteria#:~:text=Motile%20and%20non%2Dmotile%20bacteria,only%20along%20the%20stab%20line.
- <https://www.lamission.edu/lifesciences/lecturenote/mic20/Chap06Growth.pdf>
- <https://www.toppr.com/guides/evs/mangoes-round-the-year/food-spoilage/>
- http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000015FT/P000043/M000086/ET/1500291844Pp03_Mdl06_PPT.pdf
- <https://lab-training.com/2015/03/11/beneficial-role-of-microorganisms-in-food-industry/#:~:text=Bacteria%2C%20molds%20and%20yeast%20are,variety%20of%20cultured%20milk%20products.>
- <https://www.frontiersin.org/articles/10.3389/fmicb.2016.02154/full>

IFTM University, Moradabad
Course Code: BHSC-403
HOUSEHOLD APPLIANCES

Course Objective

This course is meant for the candidates who aspire to become an expert to repair different Domestic electronics appliances at household level. Repair maintenance & installation of electronics equipments like Washing Machine, vacuum cleaner, microwave oven, steam iron, electric rice cooker etc.

UNIT 1 **(8 Sessions)**

Meaning, definition, working principle, use and care of house hold equipment in terms of –

- A) Electrical - motor driven (i) Food related – refrigerator, Grinder, mixer, blender, food processor.
- B) Laundry - washing machine, Cleaning – vacuum cleaner

UNIT 2 **(10 Sessions)**

- A) Electrical – heat appliances Food related – surface heating units, toasters, percolators, oven simple & microwave
- B) Laundry – Electric iron & its types.

UNIT 3 **(8 Sessions)**

- A) Solar cooker
- B) Non electrical – cookers, non-stick pans, knives, peelers, graters.

UNIT 4 **(6 Sessions)**

Certification and guarantee – Their meaning, importance and implication.

UNIT 5 **(8 Sessions)**

General characteristics & care of different material used for equipment construction and surface finishes Aluminum, Iron. Steel, Stainless steel, Galvanized Iron, Tin, Copper, brass, Nickel and chromium, metal, glass, earthenware and plastics

Course outcomes:

After undertaking the course students will be able to:

- Understand basics of electricity, modern physics and electronics and the principle and working of different household equipment as well as scientific and clinical instruments.
- Recognize & comply safe working practices, environment regulation and housekeeping.
- Understand harmful effects of electromagnetic radiations and subsequently make decision while working with different gadgets.
- Identify parts/components, front panel controls, install, service, troubleshoot and repair of domestic electronics appliances viz. washing machine, microwave oven, electric kettle, steam iron, rice cooker and mixer- grinder with due care and safety.

- Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & societal growth.

Suggested readings:

1. Family Resource Management and Health Science by Randhawa, Rajwinder K, Pardeep Publication.
2. House hold equipment by Peett L.J thye, L.S, Johan Willey and Sons Inc. New York.
3. Eric Kleinert. Troubleshooting and Repairing Major Appliances, Third Edition (McGraw-Hill Education: New York, Chicago, San Francisco, Athens, London, Madrid, Mexico City, Milan, New Delhi, Singapore, Sydney, Toronto, 2013).
4. <https://www.accessengineeringlibrary.com/content/book/9780071770187>
5. Household Appliance | Meaning of Household Appliance by Lexico". Lexico Dictionaries | English. Retrieved 25 April 2020.
6. Appliance (definition)". Merriam-Webster. Retrieved 4 May2015.
7. "Efficient Appliances Save Energy -- and Money". Natural Resources Defense Council. Retrieved 4 May 2015.
8. Essers, Loek. "Home appliance makers connect with open source 'Internet of things' project". Computerworld. Retrieved 5 May2015.
9. Consumer Electronics by S P Bali, Pearson
10. Handbook of Repair & Maintenance of domestic electronics appliances: BPB Publications

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- https://en.wikipedia.org/wiki/List_of_home_appliances
- http://old.nios.ac.in/SecHmscicour/english/LESSON_10.pdf
- <https://ncert.nic.in/vocational/pdf/kvdl101.pdf>
- <https://ncert.nic.in/textbook/pdf/lesy107.pdf>

IFTM University, Moradabad
Course Code: BHSC-404
INTRODUCTION OF CLOTHING CONSTRUCTION

Course Objective

To develop skills in methods of draping fabric to obtain patterns for different styles of bodices, skirts and dresses with bodice skirt combinations and dresses without waistline seams, along with the developing and constructional knowledge of collars and sleeves and various other garment components.

UNIT 1 **(10 Sessions)**

Equipment- Equipment and supplies used in clothing construction, their maintenance. Sewing Machine- Parts, Functions, Care and Maintenance. Problems faced and Remedies with specific reference to sewing machine.

UNIT 2 **(4 Sessions)**

Terminology- Basic terminology used in clothing construction

UNIT 3 **(14 Sessions)**

Terminology used in Pattern making: Pattern drafting, template, working pattern, production pattern, design specification sheet, pattern chart, cost-sheet, dart, dart legs, dart intake, trueing and blending, plumb line, vertical lines, horizontal lines, perpendicular lines, symmetric and asymmetric lines, style number, pattern size. Pivotal point & style reading

UNIT 4 **(12 Sessions)**

Clothing- Importance and functions of clothing. Social and Psychological aspects of clothing Selection of Fabrics- Factors influencing selection of fabrics; Budget, Age, Season, Occupation, Figure Fashion, Occasion etc.

UNIT 5 **(12 Sessions)**

Principles of Clothing Construction- General Principles of clothing construction. Drafting and making paper patterns. Taking body measurements for different types of garments. Preparation of fabrics for garment making. Laying out of patterns, cutting and marking.

Course outcomes:

After undertaking the course students will be able to:

- Understand about parts and functions of Sewing Machine
- Understand about basic terminology used in clothing construction
- Explain about pattern making,
- Describe about the importance, principles and functions of clothing.

Suggested Readings:

1. Basic processes & Clothing Construction by Doongaji, Raaj Prakashan, 6 editions, New Delhi.
2. Fundamentals of Textiles and their Care by S. Dhantyagi, Orient Longmans 4th ed. New Delhi.
3. Textile Science by E.P.G.Gohl and L.D. Vilensky, CBS Publisher & Distributors.

4. Armstrong, Helen Joseph. (2000) Pattern Making for Fashion Design, 4thed.
5. Pearson Crawford Connie Amaden. (1989) The Art of Fashion draping, 2nded. New York: Education Ptc. Ltd. Fairchild Publications.
6. Jaffe Hilde and Nuric Relic. (1993) Draping for Fashion Design, New Jersey: Fashion Institute of Technology

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- <https://gbshse.gov.in/sites/default/files/Study%20Material/2018-06-13-clothing-construction-stdxi-cgdm-theory-practicals.pdf>
- http://tnschools.gov.in/media/textbooks/11_Tex__Dress_Designing_Theo__Prac_EM.pdf
- http://www.worldcolleges.info/sites/default/files/schoolbooks/StdXI-Voc-Textiles_and_Dress_Designing-EM.pdf

IFTM University, Moradabad
Course Code: BHSC-405
COMMUNITY NUTRITION

Course Objective

The aim of Community Nutrition is to adequate lifestyles related to food consumption patterns in order to improve the quality of life and contribute to health promotion of the population in the community where programs and services are delivered.

UNIT 1 **(10 Sessions)**

Community nutrition- basic concept, food security in India, Factors affecting and role of government in maintaining food security, food production and consumption pattern in different parts of India.

UNIT 2 **(10 Sessions)**

Magnitude of nutritional problems in India- Protein energy malnutrition, anemia, vitamin A deficiency, IDD, obesity, causes of malnutrition, strategies for the control of malnutrition.

UNIT 3 **(8 Sessions)**

Assessment of nutritional status- dietary survey, anthropometric measurements, clinical assessment, biochemical estimations.

UNIT 4 **(7 Sessions)**

National nutrition program and policies- ICDS, Supplementary Feeding Programs, Mid-Day Meal Programs, Balwadi Nutrition Programs, Food Fortification Programs, NREP, RLEGP, IRDP, TRYSEM. International agencies and programs in community nutrition- WHO, FAO, UNICEF, CARE, PAHO.

UNIT 5 **(8 Sessions)**

Nutrition education- objectives, principles and importance of nutrition education in a community, channels and methods of nutrition education, planning and implementation of nutrition education programs.

Course Outcomes:

At the end of the course, the student will have knowledge of

- What is under nutrition and malnutrition – causes, prevalence and its consequences?
- Methods of nutritional assessment of individual and group both directly and indirectly.
- The major nutritional problems existing in India- causes, effects, prevention and control measures.
- Various national nutritional programmes existing in India to combat malnutrition.
- Role of national and international agencies in improving the nutritional status of population.

Suggested Readings:

1. Textbook of Human Nutrition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.

2. Textbook of Nutrition and Dietetics by Khanna K., Gupta S, Passi S J, Seth R, Mahna R and Puri S. Phoenix Publishing House, New Delhi.
3. Recommended Dietary Allowances for Indians. (ICMR 1989).
4. Nweze Eunice Nnakwe, Community Nutrition: Planning Health Promotion and Disease Prevention. 1st or 2nd. Publisher: Jones and Bartlett (2013)
5. Textbook of Human Nutrition by Agrawal , Udipi
6. Principles of Nutritional Assessment by Rosalind S. Gibson
7. DNHE-1 Nutrition for the Community by Anshu Chaturvedi
8. Gopaldas T & Seshadari S. 1987. Nutrition Monitoring and Assessment. Oxford University Press.
9. Jeannette B Endres. 1990 Community Nutrition Challenges and Opportunities. Merrill.
10. Jelliffe DB. 1966. The Assessment of the Nutritional Status of the Community. WHO.
11. McLaren DS.1977. Nutrition in the Community. John Wiley & Sons.
12. Nutrition Foundation of India Bulletin. New Delhi.
13. Nutrition News. NIN, Hyderabad.
14. Park JE & Park K. 2000. Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publ.
15. Rao BSN, Deosthale YG & Pant KC.1998 (Revised and updated). Nutritive Value of Indian Foods by Gopalan C, Ramashastri BV & Balasubramanium SC. NIN, Hyderabad.
16. Shukla PK. 1982. Nutritional Problems of India. Prentice Hall of India.

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- <https://www.fantaproject.org/sites/default/files/resources/NACS-Users-Guide-Module2-May2016.pdf>
- https://en.wikipedia.org/wiki/Nutrition_education
- <http://scalingupnutrition.org/wp-content/uploads/2013/10/The-Gambia-National-Nutrition-Policy-2010-2020.pdf>
- <http://egyankosh.ac.in/bitstream/123456789/33459/1/Unit-10.pdf>

IFTM University, Moradabad
Course Code: BHSC-406
FAMILY RESOURCE MANAGEMENT

Objectives

- To introduce students to resources, principles and skills of management.
- To familiarize students with micro and macro level management practices.
- To enable students to gain knowledge on
 - ✓ Concepts of management.
 - ✓ Managerial abilities
 - ✓ Philosophy and values in life
- To make them understand the importance of adopting good work postures
- To understand the relation of work environment and performance of work

UNIT 1

(8 Sessions)

Introduction to Management -Concept and scope of management, Management-Science or Art, Universality of Management, Fayal's Principles of Management, Different approach to Management, Ethics in Management.

UNIT 2`

(8 Sessions)

Process of Management- Steps of management- an overview, Decision making- importance, types, steps, methods of resolving conflicts; Planning-nature, characteristics, importance; organizing, coordinating, supervising, directing and guiding, controlling, characteristics of effective control; evaluation- meaning, importance and methods.

UNIT 3

(7Sessions)

The Family Introduction to family, Family life cycle, family in transition, issues and concerns of different types of family- urban/rural, joint/ nuclear/, poor/affluent and single parent; availability and utilization of different resources in family/ community.

UNIT 4

(10 Sessions)

Time, Energy and Space Management Time- utilization of time, tools in time management, Human energy- types, posture and body mechanics, Mundal's Classes of Change, fatigue and methods of reducing it, space- maintaining spaces (content and function), Layout of Kitchen, analysis of disinfectants and cleaners.

UNIT 5

(8 Sessions)

Motivating factors- Values, Goals, Standards, Obstacles to the improvement of Management-Lack of awareness of management, Lack of awareness of resources, Failure to evaluate results of management, seeking ready-made answers to problem, Lack of information.

Course outcome:

At the end of the course, the student will be able to:

- Explain scope and significance of management
- Importance of Values, goals and standards in the management of Family resources.
- The decision making process in resource management and the importance of communication
- Application of Management process to resources- particularly time, money and energy.
- Work simplification techniques in family activity management.
- Identify and classify resources
- Describe ways of maximizing satisfaction from the use of resources.
- The basic principles of planning a house and designing life space.

Suggested Readings:

1. Organization and Management by R.D Agarwal., McGraw Hill Company, New Delhi, 2000.
2. Management by Objectives by S. K. Chakraborty.; An Integral Approach, Macmillan, Delhi.
3. Management for Modern Families by Gross and E.W Crandall,; Appleton - Centurian Crafts, New York.
4. An introduction to family resource management. Seetharaman P., Bata.S, Mehra .P. 2005 CBS Publishers and distributors, New Delhi.
5. Appraising and developing managerial performance, Academy of Human Resource Development. B.K.Publishers, Delhi.
6. Appraising and developing managerial performances, Academy of Human Resource Development . B.K Publishers , Delhi
7. Financial management: An approach and conceptual approach. Tata Mc Graw Hill, New Delhi.
8. Human resource management. Gupta .S.K and Joshi .R., Kalyani Publishers. New Delhi.
9. Personal and Human Resource Management. Decenzo. D.A. and Robins.S.P. 1993. Prentice Hall . New Delhi.
10. Human Resource Management, Gupta.C.B (2010) Sultan Chand and Sons , New Delhi

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- https://nptel.ac.in/content/storage2/courses/122106031/slides/1_1s.pdf
- http://homescience10.ac.in/storage/pages/ecurriculum/Bsc_Hsc_Sem_2/Work%20simplification.pdf
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IFTM University, Moradabad

Course Code: UDM

Disaster Management

Course Objectives

Disaster Management course is being introduced at the UG level to enable students and citizens to recognize the increasing vulnerability of the planet in general and India in particular to disasters. This, it is expected would create a basis to work towards preparedness and also help us develop a culture of safety and prevention. The understanding of disaster risk reduction perspective would be useful. While disasters are generally seen as an outcome of catastrophic natural events, the idea of pre-existing vulnerabilities is equally important. These need to be understood and addressed if disaster impacts are to be minimized. There has been a considerable policy level intervention in India in recent years and young people in each city, district, block or village can understand and explore avenues of reducing disaster risks and work towards preparedness - the efforts would contribute towards minimizing losses and saving lives.

UNIT I

(8 Sessions)

Introduction to Disasters

Definition: Disaster, Hazard, Vulnerability, Resilience, Risks

- Types of disasters – Earthquake, Landslide, Flood, Drought, Fire, campus shooting, bomb threat, terrorist incidence and financial emergency etc.
- Causes and Impacts including social, economic, political, environmental, health, psychosocial, etc. Differential impacts- in terms of caste, class, gender, age, location, disability.
- Global trends in disasters: urban disasters, pandemics, complex emergencies, Climate change- Dos and Don'ts during various types of Disasters.

UNIT II

(8 Sessions)

Approaches to Disaster Risk Reduction

- Disaster life cycle – its analysis, phases, culture of safety, prevention, mitigation and preparedness
- Community based DRR (Disaster Risk Reduction), Structural-nonstructural measures,
- Roles and responsibilities of community: Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), States, Centre, and other stakeholders

UNIT III

(8 Sessions)

Inter-Relationship between Disasters and Development

- Factors affecting Vulnerabilities, impact of Development projects such as dams, embankments, changes in Land-use etc.
- Climate Change Adaptation- IPCC Scenario and Scenarios in the context of India – Relevance of indigenous knowledge, appropriate technology and local resources.
- Role of international co-operations in Disaster Management

UNIT IV

(7 Sessions)

Disaster Risk Management in India

- Hazard and Vulnerability profile of India. Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management
- Institutional arrangements (Mitigation, Response and Preparedness, Disaster Management Act and Policy – Other related policies, plans, programmes and legislation
- Role of GIS and Information Technology Components in Preparedness, Risk Assessment, Response and Recovery Phases of Disaster – Disaster Damage Assessment.

UNIT V

Disaster Management: Applications, Case Studies and Field Works

(6 Sessions)

The project /fieldwork is meant for students to understand vulnerabilities and to work on reducing disaster risks and to build a culture of safety. Projects must be conceived creatively based on the geographic location and hazard profile of the region where the college is located. A few ideas or suggestions are discussed below.

Several governmental initiatives require Urban Local Bodies (ULBs) and Panchayati Raj Institutions (PRIs) to be proactive in preparing DM plans and community based disaster preparedness plans. Information on these would be available with the district collector or Municipal corporations.

Teachers could ask students to explore and map disaster prone areas, vulnerable sites, vulnerability of people (specific groups) and resources. The students along with teacher could work on ways of addressing these vulnerabilities, preparing plans and consultation with local administration or NGOs.

Students could conduct mock drills in schools, colleges or hospitals. They could also work on school safety, safety of college buildings, training in first aid.

Other examples could be- identifying how a large dam, road/ highway or an embankment or the location of an industry affects local environment and resources or how displacement of large sections of people creates severe vulnerabilities may be mapped by student project work.

The suggested topics for Project work for student could be as follows:

- Monitoring and evaluation plan for disaster response
- Low cost Home based water purification methods
- Planning Nutrition intervention programmes
- Safety tips before during and after earthquake, cyclone, floods and fire accidents. Mock Drills
- Major disasters in India
- Disaster Management in India
- Flood affected areas and damages in India
- Heat waves in India
- Earth quakes in India
- Historical Tsunamis in India
- Nuclear emergence
- Traffic accidents in India
- Train Accidents
- Major disease outbreak
- Disaster management structure in India
- Precaution, mitigation of disaster in India
- Warning system in India to prevent disaster

- Bhopal gas tragedy
- Kutch earth quake
- Tsunami (2004)
- Kosi Calamity 2008
- Mayapuri radiation exposure Delhi (2010)
- Mock exercises

Teaching Resources: Emphasis will be on interactive teaching learning methods. Tools could be Range of Films- documentaries and feature films related to disasters and their impacts and on vulnerabilities of people are available which a teacher could choose with care and screen. This could form a basis for classroom discussion.

Course outcomes:

- To assist students develop ability to respond to their environment with potential response to disaster.
- Learners will be able to understand the basic concept of disaster(s) and disaster management, their significance and types.
- Learners will develop the analytical skills to study relationship between vulnerability, disasters, disaster prevention and risk reduction
- Learners will gain a preliminary understanding of approaches to Disaster Risk Reduction (DRR)
- Learners will be empowered with the awareness of institutional processes in the country for Disaster Management

Suggested Readings:

1. Satish Modh, Introduction to Disaster Management, Macmillan Publisher India Ltd
2. Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press
3. Blaikie, P, Cannon T, Davis I, Wisner B 1997. At Risk Natural Hazards, Peoples' Vulnerability and Disasters, Routledge.
4. Damon P. Coppola, Introduction to International Disaster Management, Butterworth-Heinemann,
5. Singhal J.P. "Disaster Management", Laxmi Publications. ISBN-10: 9380386427 ISBN-13: 9789380386423
6. Tushar Bhattacharya, "Disaster Science and Management", McGraw Hill India Education Pvt. Ltd., ISBN-10: 1259007367, ISBN-13: 978-1259007361]
7. Gupta Anil K, Sreeja S. Nair. Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi
8. Kapur Anu Vulnerable India: A Geographical Study of Disasters, IAS and Sage Publishers, New Delhi.
9. Carter, Nick. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.
10. Cuny, F. Development and Disasters, Oxford University Press. Document on World Summit on Sustainable Development.
11. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi. Government of India, 2009.
12. Sreeja S. Nair. Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi Indian Journal of Social Work.

13. Special Issue on Psychosocial Aspects of Disasters, Volume 63, Issue 2, April.

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IFTM University, Moradabad

Course Code: BHSC-451

FOOD MICROBIOLOGY

Course Objective

The overarching goals for the laboratory portion of this course are to teach microbiological techniques and to show students the impact of microbes on our daily lives and their central roles in nature. During the semester, we will discuss essential laboratory techniques that will allow us to investigate the structure and physiology of microorganisms.

List of practical:

- A) Demonstration of the different parts of the microscope, the use and care of microorganisms.
- B) Preparation of bacterial smear, simple staining.
- C) Preparation of common laboratory media for cultivation of bacteria, yeast and mold.
- D) Morphological identification of important molds and yeast - Rhizopus, Mucor, Aspergillus, Penicillium, Sacchromyces, Alternaria, Demonstration of micro biological analysis of water, milk.

Course outcomes:

At the end of the course, the student will be able to:

- Understand the principles of microorganisms during various food-processing and preservation steps.
- Recognize specific types of microbial spoilage during various food shelf life stages.
- Describe the situations where improper food handling and storage may lead to the spoilage or contamination of food.
- Discuss the rationale for the use of standard methods and procedures for the microbiological analysis of food.
- They can use their knowledge to prevent or treat diseases, develop new technologies and improve our lives in general.
- Demonstrate practical skills in the use of tools, technologies and methods common to microbiology, and apply the scientific method and hypothesis testing in the design and execution of experiments.
- Become proficient at laboratory skills and safety procedures.
- Learn how to make careful observations, collect and analyze data, and draw appropriate conclusions.
- Utilize active learning opportunity in the laboratories.
- Demonstrate good lab citizenry and the ability to work with others.

Suggested Readings:

1. Shen, Cangliang, Zhang, Yifan, Food Microbiology Laboratory for the Food Science Student: A Practical Approach, Springer International Publishing, eBook ISBN-978-3-319-58371-6, 2017.
2. Atlas RM. (1997). Principles of Microbiology. 2nd edition. W.M.T. Brown Publishers.
3. Black JG. (2008). Microbiology: Principles and Explorations. 7th edition. Prentice Hall
4. Pelczar Jr MJ, Chan ECS, and Krieg NR. (2004). Microbiology. 5th edition Tata McGraw Hill.
5. Srivastava S and Srivastava PS. (2003). Understanding Bacteria. Kluwer Academic Publishers, Dordrecht
6. Stanier RY, Ingraham JL, Wheelis ML and Painter PR. (2005). General Microbiology. 5th edition McMillan.
7. Tortora GJ, Funke BR, and Case CL. (2008). Microbiology: An Introduction. 9th edition Pearson Education.

8. Willey JM, Sherwood LM, and Woolverton CJ. (2013). Prescott's Microbiology. 9th edition. McGraw Hill Higher Education.
9. Cappucino J and Sherman N. (2010). Microbiology: A Laboratory Manual. 9th edition. Pearson Education Limited.
10. Benson H.J. Microbiology Applications – (A Laboratory Manual in General Microbiology), Wm C Brown Publishers.
11. Cappuccino J.G. and Sherman N., A Laboratory Manual, Addison-Wesley. Work T.S. and Work R.H.E., Laboratory Techniques in Biochemistry and Molecular Biology. Elsevier Science
12. Becker J.M., Coldwell G.A. & Zachgo E.A., Biotechnology – a Laboratory Course, Academic Press.
13. Sambrook J., Fritsch T. & Maniatis T. 2001. Molecular Cloning – a Laboratory Manual. 2nd Ed. Cold Spring Harbour Laboratory Press.

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- http://eta.health.usf.edu/publichealth/PHC6562/Midterm_Final_ExtraCredit_pools/HO1_Microbiology_Basics_APIC_Chapter16.pdf
- https://www.fsis.usda.gov/shared/PDF/SPN_Guidebook_Microbiology.pdf
- <https://microbenotes.com/instruments-used-in-microbiology-lab/>
- <https://old.fssai.gov.in/Portals/0/Pdf/15Manuals/MICROBIOLOGY%20MANUAL.pdf>

IFTM University, Moradabad
Course Code: BHSC-452
HOUSEHOLD EQUIPMENTS

Course Objective

This course is meant for the candidates who aspire to become an expert to repair different Domestic electronics appliances at household level. Repair maintenance & installation of electronics equipment like Washing Machine, vacuum cleaner, microwave oven, steam iron, electric rice cooker etc.

List of practical

1. Conduct market survey of electrical and non-electrical equipment for projecting trends in equipment.
2. Evaluation of different electrical and non-electrical Equipment.
3. Cleaning of different household articles.

Course outcomes:

After undertaking the course students will be able to:

- Understand basics of electricity, modern physics and electronics and the principle and working of different household equipment as well as scientific and clinical instruments.
- Recognize & comply safe working practices, environment regulation and housekeeping.
- Understand harmful effects of electromagnetic radiations and subsequently make decision while working with different gadgets.
- Identify parts/components, front panel controls, install, service, troubleshoot and repair of domestic electronics appliances viz. washing machine, microwave oven, electric kettle, steam iron, rice cooker and mixer- grinder with due care and safety.

Suggested readings:

1. Family Resource Management and Health Science by Randhawa, Rajwinder K, Pardeep Publication.
2. House hold equipment by Peett L.J thye, L.S, Johan Willey and Sons Inc. New York.
3. "Efficient Appliances Save Energy -- and Money". Natural Resources Defense Council. Retrieved 4 May 2015
4. "Best Small Appliances - Small Appliance Reviews". *Consumer Reports*. 29 May 2014. Retrieved 5 May 2015.
5. Croft T, Summers W. American electricians' handbook. 14th edition, New York: McGraw-Hill Professional; 2002.
6. Black and Decker. The complete guide to home wiring: a comprehensive manual, from basic repairs to advanced projects (Black & Decker Home Improvement Library; US edition). Chanhassen, MN: Creative Publishing International; 2001.
7. Hometime.com. Electrical service panel: panel components, circuit breakers, fuses, electrical glossary. Hometime.com; no date.

Website Sources:

- http://www.hometime.com/Howto/projects/electric/elec_2.htm
- https://www.aciscience.org/docs/alternative_hard_surface_cleaners.pdf
- <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0008987>

IFTM University, Moradabad
Course Code: BHSC-501
NUTRITION THERAPY

Course Objective

- To familiarize the students with newer concepts in dietary management of various disorders and diseases.
- Understand the role of nutrition for good health.
- To obtain knowledge of different Therapeutic diets and their preparation.
- To develop capacity and attitudes for taking up dietetics as a profession

UNIT 1

(8 Sessions)

Therapeutic Nutrition – Importance, different types of diets, modification of normal diets to therapeutic nutrition, methods of feeding patients, pre- and post-operation diets.

Diet in deficiency diseases – Protein Energy Malnutrition, classification of PEM according to Gomez welcome group of IAP (Indian associate Pediatrician).

UNIT 2

(8 Sessions)

Causes, symptoms, dietary modifications, prevention and nutritional management in following:

- Diabetes Mellitus- IDDM, NIDDM
- Hypertension
- Heart Diseases – Coronary Heart Disease, hypertension, Atherosclerosis and ischemic Heart Disease

UNIT 3

(8 Sessions)

Dietary management and diagnosis of cancer Causes, symptoms and dietary modification in following:

- Acute and Chronic renal failure Nephritis
- Kidney stones

UNIT 4

(6 Sessions)

Causes, symptoms, dietary modifications, prevention and nutritional management in following:

- Diarrhoea and constipation.
- Dyspepsia, gastritis and peptic ulcer.
- Hepatitis.
- Acute and chronic fever.
- Diets during underweight, overweight and obesity.

Unit 5

(8 Sessions)

Definition of the terms: Nutrition, Nutritional status, health, malnutrition, under-nutrition, over nutrition and diet therapy. Assessment of nutritional status and methods of conducting dietary surveys and dietary counseling.

Course outcomes:

By the end of the course the students will be able to

- To acquire basic knowledge of nutrient requirements, recommended dietary allowances, and dietary modification under different physiological conditions.
- To acquire basic knowledge of food groups, food exchange system and their nutritional significance, and application of knowledge acquired for healthy eating.
- To develop practical skills in planning and management of diets for the different age groups under normal/ physiological conditions keeping in mind the dietary guidelines.
- To gain knowledge on the nature and scope of therapeutic nutrition; and understand the principles of dietary modification and apply in planning.
- To understand nutrition-related diseases of the: gut, liver, gallbladder, pancreas, and heart.
- To know the etiology, incidence, nature, clinical symptoms, diagnosis, and medical and dietary management of disease

Suggested Readings:

1. Clinical Nutrition and Dietetics- Autia F.P.
2. Nutrition in Health and disease Cooper Barker E. Mitchell, h Ry Moergen, H Searman H.C.
3. Nutritive value of Indian Foods C Gopalan.
4. Robinson, Lawler, Chenoweth & Garwick, 1987. Normal & Therapeutic Nutrition. 17th Ed. Macmillan Publishing Co.
5. Shills ME & Young VR. Modern Nutrition in Health & Disease 7th Ed. Lea & Febiger.
6. Stanfield PS, Hui YH & American Dietetics Association 1992. Nutrition & Diet Therapy. 2nd Ed. Jones & Bartlett Publ.
7. Sumati R. Mudambi and M.V. Rajagopal, Fundamentals of Foods, Nutrition and Diet Therapy, 5th Edition NEW AGE INTERNATIONAL (P) LIMITED, PUBLISHERS 4835/24, Ansari Road, Daryaganj, New Delhi - 110002 Visit us at www.newagepublishers.com, ISBN (13) : 978-81-224-2972-5 , 2007.
8. Peggy S. Stanfield, and Y. H. Hui, PhD, Nutrition and Diet Therapy Self-Instructional Approaches, World Headquarters Jones and Bartlett Publishers 40 Tall Pine Drive Sudbury, MA 01776 978-443-5000 info@jbpub.com www.jbpub.com, Copyright © 2010 by Jones and Bartlett Publishers, LLC
9. Sheila Buckley Tucker and Vera Dauffenbach Nutrition and Diet Therapy for Nurses, Second edition. | Boston : Pearson, [2019] | Includes bibliographical references and index, LCCN 2017023975 (print) | LCCN 2017025831 (ebook) | ISBN 9780134454306 (ebook) | ISBN 0134454308 (ebook) | ISBN 9780134442877 | ISBN 0134442873 (2019)
10. Ruth A. Roth, MS, RD., Nutrition & Diet Therapy, 10th Edition , ISBN-13: 978-14354-8629-4 ISBN-10: 1-4354-8629-3, 5 Maxwell Drive Clifton Park, NY 12065-2919 USA
11. Textbook of Clinical Nutrition and Functional Medicine, Vol. 2: Protocols for Common Inflammatory Disorders March 2016, Edition: 4th Edition, Publisher: International College of Human Nutrition and Functional Medicine ICHNFM.ORG, ISBN: 978-0990620440.

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- <https://www.dietitiansathome.com/medical-nutrition-therapy-mnt>;
- <https://www.pdfdrive.com/> www.eatright.org;
- <http://www.choosemyplate.gov>;
- <http://www.fda.gov/food/default.htm>;
- <http://www.nutrition.gov>;
- www.consumerlab.com;
- www.publichealth.org;
- <https://www.nutritionist-resource.org.uk/> ;

IFTM University, Moradabad
Course Code: BHSC-502
COMMUNITY DEVELOPMENT

Course objective

To develop and appreciate the basic characteristics of community development, how social, economic, political and governance factors affect and impact community development, and how gender issues and climate change affect community development.

UNIT 1

(12 Sessions)

History of Community Development: Definition and importance of community development. Study of various community development programmes - Shriniketan. Rural Reconstruction, Gurgaon Experiment, Marthandam project, Gandhian Constructive Programme, Etawah Pilot Project, Firka Development Scheme, Indian Village Service (I.V.S.) and Nilokheri Experiment, Role of NGO in community development

UNIT 2

(14 Sessions)

• Extension Teaching Process: Definition of extension teaching, steps involved in extension teaching. Factors contributing to extension teaching, Principles of extension teaching and desirable traits of a teacher for effective extension work.

• Extension Learning Process: Definition of extension learning. Learning experience. Laws of learning. Principles of learning. Factors affecting learning and ideal learning situation to achieve the success.

UNIT3

(10 Sessions)

Innovation Decision Process: Definition of innovation decision process, steps involved in the adoption process, rate of adoption, innovativeness, diffusion, characteristics of innovations, classification of adopters and their characteristics.

UNIT 4

(10 Sessions)

Support structures and their functions:

- Central social welfare board.
- Welfare programs: JRT, IRDP, ICDS, DWACRA. National voluntary Agencies: CAPART, KVIC, ICAR Elected Panchayat.

UNIT 5

(8 Sessions)

Critical review of community development programs in five year plans.

Course outcomes:

After completing this course you should be able to:

- Describe how the resources and services available in your community enhance physical and cultural development.
- Apply the knowledge of environmental factors that affect community development.
- Learn about concept and scope of extension in national development.

- Understand the principles and process of program design and management.
- Comprehend about the concept of extension teaching process and innovation decision process.
- Develop skills for using participatory approaches in programme management
- Able to interpret and evaluate an advocacy campaign for social mobilization

Suggested Readings:

1. Roy, G. L. (1991): Extension Communication Management, Calcutta, Naya Prakash.
2. Jain, R. (1993): Mass Media and Rural Development. Vol II, New Delhi, Manak Publications Pvt. Ltd.
3. Thakur, B. S. and Agarwala, C. (1989): Media utilization for the Development of Women and Children, New Delhi, Concept Publishing Co.
4. Rhonda Phillips and Robert H. Pittman, AN INTRODUCTION TO COMMUNITY DEVELOPMENT, Taylor & Francis e-Library, 2008., ISBN 0-203-88693-3 Master e-book ISBN,
5. Teaching community development to social work students: A critical reflection, April 2009, Community Development Journal 44(2), DOI: 10.1093/cdj/bsn001
6. Community Development Challenge Report" (PDF). Produced by Community Development Foundation for Communities and Local Government. Archived from the original (PDF) on 2018-01-27. Retrieved 2009-02-13.
7. Lefevre, Pierre; Kolsteren, Patrick; De Wael, Marie-Paule; Byekwaso, Francis; Beghin, Ivan (December 2000). "Comprehensive Participatory Planning and Evaluation" (PDF). Antwerp, Belgium: IFAD. Archived from the original (PDF) on 2008-12-06. Retrieved 2008-10-21.
8. *"International Association for Community Development"*. Retrieved 7 July 2014.

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- <https://www.echocommunity.org/en/resources/> ;
- <https://iopscience.iop.org/>
- <https://www.nal.usda.gov/ric/about-ric>;
- pdfdrive.com

IFTM University, Moradabad

Course Code: BHSC-503

FAMILY HOUSING

Course objective

To acquaint the students with various building features, materials, latest building techniques, vastu sharstra, acoustics, rain water harvesting and landscape planning.

UNIT 1

(6 Sessions)

Factors influencing choice of family housing: Family Size – Size of Family, Family Structure, Family activities, Stage in Family Life Cycle, Income of family ,Availability of Housing , Housing values & Standard, Selection of site, Selection of House site: Types of soil, locality Orientation and Public Convenience

UNIT 2

(8 Sessions)

Residential Planning: Principles underlying the planning of House – Aspects, Prospects, Privacy, Grouping, Roominess, Flexibility, Sanitation, Circulation. House plan for different income group.

UNIT 3

(8 Sessions)

Construction & Building Material. Construction features of a house – Foundation walls, doors, windows. Floor & floor covering roof, Staircases. Building Materials – Bricks, Stones Cement, Lime, Plastics, Glass, Metals, Woods.

UNIT 4

(8 Sessions)

Advantages of renting a house.Disadvantages of renting a house .Advantages of home ownership. Disadvantages of home ownership

Unit 5

(8 Sessions)

Government Housing Scheme: Financial Institution-L.I.C Bank, Housing board cooperative housing societies.

Course Outcomes:

After completing this course you should be able to:

- Prepare house plan.
- Explain about construction and building material
- Understand about government housing scheme
- Explain about family.

Suggested Readings:

1. Family Resource Management and Health Science by Randhawa, Rajwinder K, Pardeep Publication
2. Modern Ideal Homes for India by Despande, R.S .United book corporation

3. The house its plan & use by Agan Tessie M.S.Gulab Primlani
4. Ambadker SN. 2000. Rural Housing: Agro-socio-economic Impact. Special Indian Ed. Agrobios.
5. Lal AK. 1999. Handbook of Low Cost Housing, New Age International.
6. Mahadeva M. 2002. Housing in India: The Situation, Development and Challenges. Orient Longman Publ.
7. Morris EW. 1979. Housing Family and Society. John Wiley & Sons.
8. RajaRao YN & Subrahmanyam Y. 2002. Planning and Designing of Residential Buildings. Standard Publ.

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- <https://www.tandfonline.com/doi/abs/10.1080/08882746.2001.11430459?j>
- <https://www.scoilnet.ie/uploads/resources/31413/31149.pdf>
- <https://cte.sfasu.edu/wp-content/uploads/2014/01/Presentation-Notes-for-Factors-that-Affect-Housing-Choices.pdf> ; <https://www.journals.elsevier.com/construction-and-building-materials>
- [https://libguides.princeton.edu/c.php?g=84763&p=543358:](https://libguides.princeton.edu/c.php?g=84763&p=543358)
- [pdfdrive.com](https://www.pdfdrive.com)

IFTM University, Moradabad
Course Code: BHSC-504
ADVANCED CLOTHING CONSTRUCTION

Course Objective

To course aims to deliver a preliminary understanding of the fabric components and enhance the learner's awareness of various commercially available fabrics along with an understanding of their properties and end uses.

UNIT 1 **(10 Sessions)**

- Drafting, and making paper patterns for different garments
- Placing and cutting patterns in relation to fabric

UNIT 2 **(8 Sessions)**

Renovation & removal of defects in garments. Fitting Problems.

UNIT 3 **(8 Sessions)**

- Clothing and its importance Principles of good design.
- Biological, psychological and sociological aspects of clothing. Influence of need and environment on clothing behavior

UNIT 4 **(8 Sessions)**

Traditional Textiles of India Sarees: (Chanderi, Paithani, Dacca, Patola, Bandhani, Baluchari), carpets, shawls, brocades and painted fabrics (Madhubani and Kalamkari).

UNIT 5 **(8 Sessions)**

Fashion – Fashion Cycle, role of Fashion Designers, current Fashion trends.

Course Outcomes:

After completing this course you should be able to:

- Understand the components of a textile fabric.
- Identify the various commercially available fabrics.
- Appropriately select fabrics based on their properties, cost and recommended end uses.
- Explain about the importance and principles clothing.
- Differentiate between Traditional Textiles of India.
- Explain about current fashion trends.

Suggested Readings:

1. Elements of fashion and apparel design by G.J. Sumanthi, New Age international limited, New Delhi
2. Traditional embroideries of India by Shailaja D. Naik., A. P.H Publishing Corporation.

3. Textiles Fiber to Fabric by Bernard P. Corbman, McGraw-Hill International Editions
4. Corbman P. B. (1989) Textiles- Fiber to Fabric, 6th edition, Mc Graw Hill, New York.
5. Hollen N., Saddler J., Langford A.L., Kadolph S.J. (1988) Textiles, 6th Edition, Macmillan publishing Company New York, USA
6. Joseph, M.L. (1988) Essentials of Textiles, 6th Edition, Florida: Holt, Rinehart and Winston Inc.
7. Pizzoto's J.J. Fabric Science, 11th Edition, New York: Fairchild Publication.
8. D. Rastogi (Ed.) and S. Chopra (Ed.) (2017) Textile Science, India: Orient Black Swan.
9. Sekhri S. (2011) Textbook of Fabric Science: Fundamentals to Finishing, Delhi:PHI Learning.
10. Tholia A. (2013) Understanding Fabrics- A practical Approach, 2nd edition, Sarv International.
11. Wingate, Isabel B. (1949)Textile Fabrics and Their Selection, New York: Prentice Hall

Website Sources:

- https://pubsaskdev.blob.core.windows.net/pubsask-prod/40542/40542_Clothing_Textiles_and_Fashion_10_30_2000.pdf;
- http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2015/Traditional_India_Textile_and_Basic_Pattern_Dev_XII/CBSE_Traditional_Indian_Textiles%20XII.pdf;
- pdfdrive.com;
- <https://textilesfindia.in/>

IFTM University, Moradabad
Course Code: BHSC - 505
MANAGEMENT OF MEALS

Course objectives

- To understand about the prevalence and extend of malnutrition in India.
- To know the different ways to assess the nutritional status of the community.
- To equip with the knowledge of planning and conduction nutrition education programmes.

UNIT 1

(12 Sessions)

Relationship of nutrition to human health, growth and human welfare. Concept and definition of terms. Recommended dietary allowances for Indians, Normal Nutrition, malnutrition, under nutrition, dietary fiber, water, acid- base balance, electrolyte balance.

UNIT 2

(10 Sessions)

Energy value of foods and energy requirement, Basal metabolism, factors affecting basal metabolic rate, calorogenic effect of food, specific dynamic action of food.

UNIT 3

(6 Sessions)

- Basic principles of meal planning and its importance.
- Planning menu for individual and family
- Factors affecting meal planning, food groups, their exchange and distribution

UNIT 4

(6Sessions)

Nutrition for specific age groups:

- Nutrition during infancy: a) Growth and Development during infancy b) Nutritional requirements c) Types of milk fed to infants and differences between human and animal milk d) Advantages of Breast Feeding e) Bottle feeding f) Weaning and Supplementary foods
- Nutrition during: 1. Preschoolers. 2. School children
- Adolescence: a) Growth and development b) Nutritional requirements and establishment of good food habits c) Balanced diets.
- Geriatric nutrition (age over 60 years): a) Changes occurring during Ageing. b) Nutritional needs and dietary modifications.

Unit 5

(6 Sessions)

- Malnutrition Definition and Types of malnutrition. Causes of malnutrition, prevalence of Malnutrition in India. Effects of malnutrition on general health, physical, mental and national development.
- Meaning, importance, methods and evaluation of Nutrition Education, problems involved in organizing Nutrition Education Programme for the community and how to solve them.

Course Outcomes:

After completing this course you should be able to:

- Understand nutrition considerations during special conditions for children, adults, old age people and specially for pregnant and lactating mother..
- Modify the normal diet for therapeutic purposes.
- Understand the etiology, clinical features and dietary management in some common disorders / diseases.
- Understand significance of dietary counseling
- Be aware of the various aspects of nutrition education and promotion.
- Be familiar with the policy and intervention programmes operating in India to overcome malnutrition.

Suggested Readings:

1. Nutrition in India – Patvardhan V.N.
2. Principles of Nutrition Wilson E.D/ Father, K.H. Figure M.E Vittar H.S.
3. Nutrition in Health and disease cooprel Barker E. Mitchell, h Ry Moergen,
4. H Searman H.C. Devadas,P.R.Nutrition in TamilNadu,Sangham Publishers,1972.
5. Devadas,P.R and Radhakumari A, The School Lunch Programme, Ministry of Education. 46
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7. FAO,Manual on Food and Nutrition Policy, 1970.
8. Avinashilingam P.S,Nutritional feeding in the Fourth Plan,1970.
9. National Symposium of Agricultural Research Development sinceIndependence.Indian Council of Agricultural Research,New Delhi, 1974.
10. Mitchell,R.Crop Growth and Culture. The State University Press.1972
11. Food and Agriculture Organisation of the United Nations,Agriculture and industrialization,Basic study No.7,1967

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- <https://food.unl.edu/documents/NEP%20LHL%20Food%20Resource%20Managemen%20Web.pdf>
- <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015WR017053>
- <https://www.futurelearn.com/info/courses/food-systems-southeast-asia/0/steps/83755>
- <https://www.hhs.gov/fitness/resource-center/nutrition-resources/index.html>
- <https://www.publichealthgreybruce.on.ca/Your-Health/Eating-Well/Nutrition-for-All-Ages>
- pdfdrive.com;

IFTM University
Course Code: BHSC-506
THE CHILD WITH SPECIAL NEED

Course objective

- To help students make satisfactory social and emotional adjustments to problems imposed. by their disabilities,
- To help students gain securities through improved function and increased ability to meet the physical demands of daily living.

UNIT 1

(8 Sessions)

Definition of special need child and terminologies related to special need child, relationship of delayed development and disability. Need for intervention, education and rehabilitation, Rights of disabled child.

UNIT 2

(6Sessions)

The Child with Mental retardation -Definition of Intelligence, adaptive behavior and mental retardation. Current classification and terms: mild, moderate, severe and profound retardation. Genetic and environmental causes; prevention.Characteristics of children with mental retardation in different areas of development.

UNIT 3

(7Sessions)

The Child with Sensory deficit.Auditory impairment -Definitions-deaf and hard of hearing children, Classification- mild, moderate, severe and profound loss. Genetic, prenatal and perinatal causes of deafness. Approaches to measurement-simple and clinical methods.Cognitive, language, social and emotional development of children with hearing loss.Communication in children with hearing loss.Prevention, early treatment and stimulation.

UNIT 4

(8Sessions)

Visual Impairment - Definitions of blindness and partial sight. Genetic and Environmental causes – with special reference to nutrition, Prevention and treatment of impairment. Motor, language and socio- emotional development.Sensitivity of other senses.

UNIT 5

(8Sessions)

The Child with Cerebral Palsy and Orthopedic Disability - Definitions, classification and prevalence.Causes and associated conditions. Prevention and treatment approaches. Role of family and community. Stress in family and support mechanisms. Integration of children.

Course outcomes:

By the end of the course the students will be able to

- Understand different concepts of developmental challenges in children
- Know the need and importance of special education for children with developmental challenges
- Describe the symptoms of major physical disabilities;
- Explain ways to provide appropriate care for children with various physical disabilities;

- Identify and describe symptoms that signal possible problems associated with various physical impairments and share these observations with parents.
- Aware of the organizations, welfare provisions, rights of handicapped children.
- Construct specific teaching guidelines and methods to meet the needs of each child with physical disabilities;
- Explain ways to adapt your curriculum to meet the needs of each child with physical disabilities.

Suggested Readings:

1. Guilford, R. (1971) "Special Educational Needs", Routledge and Kegan Press, London.
2. Sharma, N. (Ed)(2010). The Social Ecology of Disability-Technical Series -3 Lady Irwin College. Delhi: Academic Excellence
3. Mangal, S. K. (2007). Exceptional children: An introduction to special education. New Delhi: Prentice Hall of India
4. Cruschank, W.M. (1975). Psychology of Exceptional Children and Youth. Englewood Cliffs N.J.: Prentice Hall
5. Deno, E. (1973). Instructional Alternatives for Exceptional Children. Reston V A E.F.
6. Evans, R.C. & MC Laughlin, P.3. (1993). Recent Advances in Special Education and Rehabilitation. Boston :Andover Medical Publishers
7. Evans, P&Verma, V. (Eds) (1990) Special Education. Past Present and Future. The Falmer Press.
8. Guilford, P. (1971). Special Education Needs. Routledge Kegan Paul
9. Hollahan, D and Kauffman, M. (1978). Exceptional Children: An Introduction to Special Education. Ni. Englewood Cliffs: Prentice Hall.
10. Panda, K.C. (1997). Education of Exceptional Children, New Delhi, Vikas Publishing House.
11. Pandey, R.S. and Advani, L. (1995). Perspectives in Disability and Rehabilitation. New Delhi: Vikas Publishing House.
12. Stephens, T.M. Etal (1983). Teaching Mainstream Students. New York: John Wiley.
13. WHO (1976). International Classification of Procedures in Medicine. Geneva Vol. 1 & 2.
14. Dessent, T. (1987). Making the Ordinary School Special. The Falmer Press, London.
15. Friel, J. (1997). Children with special needs, Jessica Kingsley Publication, London
16. Brelje, W. (1999). Global Perspective on Education of the Deaf. Selected countries, Butte Publication Inc. – USA.
17. Baquer, A. and Sharma, A. (1997). Disability: Challenges Vs. Responses. CAN, New Delhi
18. . Robert, F. & Juanne, M.H. (1995). Foundation of Education: The Challenge of Professional Practice. Allyn & Becon.
19. . Dubbey, S.N. (2001). Education Scenario in India – 2001. Authors Press.

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- <https://www.theonlinemom.com/web-based-resources-for-special-needs-kids/>;
- <https://www.specialeducationguide.com/pre-k-12/tools-and-research/support-and-resources-for-parents-and-teachers/> ;
- <https://www.mentalhelp.net/intellectual-disabilities/signs-and-symptoms/>;
- Pdfdrive.com

- <https://www.cerebralpalsy.org/>; <https://kidshealth.org/en/parents/central-auditory.html>;
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1906928/>

IFTM University, Moradabad
Course Code: BHSC-551
NUTRITION THERAPY

Course Objectives

- To familiarize the students with newer concepts in dietary management of various disorders and diseases.
- Understand the role of nutrition for good health.
- To obtain knowledge of different Therapeutic diets and their preparation.
- To develop capacity and attitudes for taking up dietetics as a profession

List of Practical -

- A. Planning and preparation of soft and liquid diet.
- B. Diet in Diarrhea and constipation.
- C. Diet in Kwashiorkor, Marasmus.
- D. Diet in peptic ulcers.
- E. Diet for underweight and obese.
- F. Diet in Hypertension.
- G. Diet in fevers.
- H. Diet in Diabetes

Course outcomes:

By the end of the course the students will be able to

- To acquire basic knowledge of nutrient requirements, recommended dietary allowances, and dietary modification under different physiological conditions.
- To acquire basic knowledge of food groups, food exchange system and their nutritional significance, and application of knowledge acquired for healthy eating.
- To develop practical skills in planning and management of diets for the different age groups under normal/ physiological conditions keeping in mind the dietary guidelines.
- To gain knowledge of different types of therapeutic diet.
- To know the etiology, incidence, nature, clinical symptoms, diagnosis, and medical and dietary management of disease.

Suggested Readings:

1. Clinical Nutrition and Dietetics- Autia F.P .
2. Nutrition in Health and disease coprel Barker E. Mitchell, h Ry Moergen, H Searman H.C.
3. Nutritive value of Indian Foods C Gopalan.
4. Robinson, Lawler, Chenoweth & Garwick, 1987. Normal & Therapeutic Nutrition. 17th Ed. Macmillan Publishing Co.
5. Shills ME & Young VR. Modern Nutrition in Health & Disease 7th Ed. Lea & Febiger.
6. Stanfield PS, Hui YH & American Dietetics Association 1992. Nutrition & Diet Therapy. 2nd Ed. Jones & Bartlett Publ.

7. Sumati R. Mudambi and M.V. Rajagopal, Fundamentals of Foods, Nutrition and Diet Therapy, 5th Edition NEW AGE INTERNATIONAL (P) LIMITED, PUBLISHERS 4835/24, Ansari Road, Daryaganj, New Delhi - 110002 Visit us at www.newagepublishers.com, ISBN (13) : 978-81-224-2972-5 , 2007.
8. Ruth A. Roth, MS, RD., Nutrition & Diet Therapy, 10th Edition , ISBN-13: 978-14354-8629-4 ISBN-10: 1-4354-8629-3, 5 Maxwell Drive Clifton Park, NY 12065-2919 USA
9. Textbook of Clinical Nutrition and Functional Medicine, Vol. 2: Protocols for Common Inflammatory Disorders March 2016, Edition: 4th Edition, Publisher: International College of Human Nutrition and Functional Medicine ICHNFM.ORG, ISBN: 978-0990620440.

Website Sources:

- <https://www.dietitiansathome.com/medical-nutrition-therapy-mnt>;
- <https://www.pdfdrive.com/> www.eatright.org;
- <http://www.choosemyplate.gov>;
- <http://www.fda.gov/food/default.htm>;
- <http://www.nutrition.gov>;
- www.consumerlab.com;
- www.publichealth.org;
- <https://www.nutritionist-resource.org.uk/> ;

IFTM University, Moradabad
Course Code: BHSC-552
MANAGEMENT OF MEALS

Course objectives

- To understand about the prevalence and extend of malnutrition in India.
- To know the different ways to assess the nutritional status of the community.
- To equip with the knowledge of planning and conduction nutrition education programmes.

List of Practical:

- A) Categorization of food as rich, moderate and poor sources of energy, protein, fat carbohydrates, vitamins and minerals.
- B) Demonstration, understanding of principal and working of a bomb calorimeter
- C) Planning diets for different age groups, income groups and activity levels.
- D) Planning diet for pregnancy and lactation period.

Course outcomes:

After completing this course you should be able to:

- Understand nutrition considerations during special conditions for children, adults, old age people and specially for pregnant and lactating mother.
- Modify the normal diet for therapeutic purposes.
- Understand the etiology, clinical features and dietary management in some common disorders / diseases.
- Understand significance of dietary counseling
- Demonstrate the principal and working of a bomb calorimeter.

Suggested Readings:

1. Nutrition in India – Patvardhan V.N.
2. Nutrition in Health and disease cooprel Barker E. Mitchell, h Ry Moergen,
3. Major,J Human Nutrition, Spring Field 1972.
4. FAO, Manual on Food and Nutrition Policy, 1970.
5. Avinashilingam P.S, Nutritional feeding in the Fourth Plan, 1970.
6. Robinson, Lawler, Chenoweth & Garwick, 1987. Normal & Therapeutic Nutrition. 17th Ed. Macmillan Publishing Co.
7. Stanfield PS, Hui YH & American Dietetics Association 1992. Nutrition & Diet Therapy. 2nd Ed. Jones & Bartlett Publ.
8. Sumati R. Mudambi and M.V. Rajagopal, Fundamentals of Foods, Nutrition and Diet Therapy, 5th Edition NEW AGE INTERNATIONAL (P) LIMITED, PUBLISHERS 4835/24, Ansari Road, Daryaganj, New Delhi - 110002 Visit us at www.newagepublishers.com, ISBN (13) : 978-81-224-2972-5 , 2007.
9. Ruth A. Roth, MS, RD., Nutrition & Diet Therapy, 10th Edition , ISBN-13: 978-14354-8629-4 ISBN-10: 1-4354-8629-3, 5 Maxwell Drive Clifton Park, NY 12065-2919 USA
10. Textbook of Clinical Nutrition and Functional Medicine, Vol. 2: Protocols for Common Inflammatory Disorders March 2016, Edition: 4th Edition, Publisher: International College of Human Nutrition and Functional Medicine ICHNFM.ORG, ISBN: 978-0990620440.

Website Sources:

- <https://food.unl.edu/documents/NEP%20LHL%20Food%20Resource%20Managemen%20Web.pdf>
- <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015WR017053>
- <https://www.futurelearn.com/info/courses/food-systems-southeast-asia/0/steps/83755>
- <https://www.hhs.gov/fitness/resource-center/nutrition-resources/index.html>
- <https://www.publichealthgreybruce.on.ca/Your-Health/Eating-Well/Nutrition-for-All-Ages>
- pdfdrive.com;

IFTM University, Moradabad
Course Code: BHSC-601
FOOD PRESERVATION & PROTECTION

Course objective

The goal of this course is to provide students with a fundamental understanding of food preservation and food packaging techniques and to ensure students are technically ready for the food industry through a practical, problem-solving approach.

UNIT 1 **(8 Sessions)**

Food Spoilage- Causes , Perishable, semi perishable and non-perishable foods. Factors affecting the growth of micro-organisms in the food. Intrinsic and extrinsic parameters.

UNIT 2 **(7 Sessions)**

Food Preservation. Importance and principles of food preservation. Methods of food preservation. Use of low temperature (Refrigeration and freezing). Use of high temperature(Pasteurization and sterilization). Use of preservatives. Drying. Radiation.

UNIT 3 **(7 Sessions)**

Food Fermentation. Microorganisms as food-SCP (Single cell Protein) C) Food Adulteration and its household methods of detection.

UNIT 4 **(8 Sessions)**

Food Additives – definition and classification. General principles of the use of food additives issued by FAO, WHO. Natural and synthetic preservatives.

UNIT 5 **(8 Sessions)**

Food Laws and Standards. Responsible agencies for safe food. Present regulations / orders / standards related to food.

Course outcomes:

By the end of the course the students will be able to

- Apply major food preservation techniques and explain underlying principles.
- Analyze and evaluate novel food processing methods including non-thermal food processing techniques using pressure, light, sound and microwave.
- Outline the purpose and principles of food packaging and examine the operations involved in packaging material manufacture.
- Critique environmental issues, regulations and quality control associated with food packaging.
- Identify and evaluate the suitability of processing and packaging techniques for various foods.

Suggested Readings:

1. Subalakshmi, G and Udipi, S.A. Food processing and preservation. New Age International Publishers, New Delhi, 2001.
2. Srilakshmi, B. Food Science. New Age International Publishers, New Delhi, 2003.
3. Srivastava, R.P.O and Kumar, S. Fruit and vegetable preservation, International Book distribution Company, Lucknow, 1994.
4. Foods Facts and Principles, N. Shakunthala Manay and M. Shadaksharaswamy, 2001.
5. Food Science Third edition, B. Srilakshmi, 2003.
6. Food Science, Fourth edition Norman N. Potter, 2013
7. Nutrition Facts, Karen Frazier, Aug 2015.
8. Modern Food Microbiology, Seventh edition, James M. Jay , Martin J. Loessnerm, David A. Golden, 2005.
9. Food Processing, Carl J. Schaschke, 2011

Website Sources:

- <https://www.britannica.com/topic/food-preservation>; <https://nchfp.uga.edu/>
- <http://hamilton.cce.cornell.edu/home-food-family/food-preservation>;
- <https://byjus.com/biology/food-preservation-methods-food-poisoning/>
- <https://www.highspeedtraining.co.uk/hub/food-preservation-methods/>
- Pdfdrive.com

IFTM University, Moradabad
Course Code: BHSC-602
ART PRINCIPLES AND INTERIOR DECORATION

Course objectives

To help students to:

1. Learn aesthetic skills in applying principles of Interior Decoration
2. Apply practical knowledge and skill in treating home decoration and commercial centers.
3. Become a good Interior Designer

UNIT 1 **(8Sessions)**

Introduction to Foundation of Art –Definition and types of design, Elements of design along with Characteristics & classification (line, size, form, structure, space, pattern, shape).Principles of design & their characteristics and types (Balance, rhythm, harmony, proportion, emphasis, opposition).

UNIT 2 **(7Sessions)**

Study of Colours- classification and dimension. Colour scheme and their effect: Monochromatic color scheme, Analogous color scheme, Complementary color scheme, Split-complementary color scheme, Tetradic color scheme, Neutral color scheme, Accented neutral color scheme, Warm and Cool Color Schemes. Impact of colours in interiors and human beings, Psychological impact of various colours in interiors.

UNIT 3 **(6Sessions)**

Application of design Indian, regional, traditional & contemporary arts & their use in – Floor decoration and Home decoration.Lighting-types, lighting fixtures, lighting requirement for various activities.

UNIT 4 **(10 Sessions)**

Principles of Flower arrangement, Elements of Flower arrangement, Material used in flower arrangement, Types of flower arrangement-Mass arrangement, Line arrangement, Japanese arrangement, Steps in flower arrangement. Use of accessories in interior enrichment.

UNIT 5 **(6Sessions)**

Appreciation of arts; In terms of principles of art and design, In terms of composition and aesthetic appeal. Aesthetic- Its importance in relation to interiors.

Course outcomes:

By the end of the course the students will be able to:

- Apply theory, psychology and methodology of color to designs of the interior environment.
- Explain elements of art and principles of design
- Application of principles of art and design in rural and urban homes.
- Understand about color - its importance, characteristics and application in interior decoration.

Suggested Readings:

1. R.S Deshpande, Modern Ideal Homes for India, UNITED Book Corporation Puna.

2. Diamonstein, Interior Design-The New Freedom, New York: Rizzoli International Publications Inc.
3. Art in Everyday Life - Harriet Goldstein Mac Millan Co. New York.
4. Anna Hong Rutt (19730). Home Furnishing, Wiley Eastern private limited, New Delhi.
5. Harriet Goldstein and Veita Goldstein (1954). Art in Everyday Life, Fourth edition, Macmillan Publishing Co., INC.
6. Ruth Morton, Hilda Geuther. and Virginia Guthrie (1970). The Home its Furnishings and Equipment. Webster Division, McGraw-Hill Book Company, New York.
7. P.parimalam, A. Andal and M.R. Premalatha (2008). A text book of Interior Decoration, Satish Serial Publishing House, Delhi
8. Premavathy Seetharaman and Parveen Pannu(2009) Interior Design and Decoration. CBS Publishers and Distributors Pvt Ltd. New Delhi

Website Sources:

1. <http://www.artsparx.com/seeingcolor.html>
2. www.ca.uky.edu/hes/fcs/FACTSHTS/HF-LRA.148.PDF
3. www.areforum.org/up/Mechanical%20and%20Electrical/8946BST.pdf
4. http://www.cobw.com/GraphicDesign_Color_Theory_and_Color_Wheel.htm
5. <https://algonquincollege.libguides.com/interiordesign/web>
6. https://artclever.com/books/The_Fundamentals_of_Interior_Design.pdf
7. <https://kraftivo.in/interior-design-guide/>

IFTM University, Moradabad
Course Code: BHSC-603
TEXTILE DESIGN

Course objectives:

- To provide the students understanding of the concept of color and its measurement.
- To provide the knowledge and understanding of the theories, mechanism and use of various dyes and auxiliaries for dyeing and printing of textile substrates.

UNIT 1

(8Sessions)

Elements and principles of design in relation to textiles. History of textile design. Classification of textile design – woven and printed. Methods of getting design of textile and their comparison. Preparation of fabric before dyeing and printing. Industrial level processing – singeing, desizing, scouring, bleaching, kier boiling, mercerizing. Cottage level processing - desizing, bleaching, carbonizing.

UNIT 2

(10 Sessions)

Dyes – Classification of dyes. Mode of action and application – on yarn and fabric. Styles of dyeing – direct, resist, discharge

UNIT 3

(8 Sessions)

Printing – Methods of printing. Hand printing – block, stencil, screen, spray. Machine printing

UNIT 4

(12 Sessions)

Traditional Textiles of India – Chanderi of Madhya-Pradesh, Brocade of Uttar Pradesh (Banaras) and Andhra-Pradesh (Hyderabad) , Patola of Gujrat, Orissa and Andhra-Pradesh, Chamba rumal of Himachal Pradesh, Balucheri of Bengal, Muslin of Dacca, Kosa silk of Chattisgarh.

Unit 5

(8 Sessions)

Traditional Embroideries of India – Kashmiri, Phulkari, Chikankari, Kantha, Gujrati, Kasuti.

Course outcomes:

By the end of the course the students will be able to:

- Understand the concept of color and its measurement techniques.
- Describe the process of dyeing of various fibers with different dyes.
- Describe the methods and styles of printing.
- Explain about different Embroideries.
- Understand about elements and principles of design in relation to textiles.

Suggested Readings:

1. G.J. Sumanthi, Elements of fashion and apparel design, New Age international limited, New Delhi
2. Shailaja D. Naik, Traditional embroideries of India, A. P.H Publishing Corporation.

3. Bernard P. Corbman Textiles Fiber to Fabric, McGraw-Hill International Editions Suggested Readings:
4. Aspland J. R., (1997) Textile Dyeing and Colouration, NC: AATCC.
5. Clarke, W. (1977) An Introduction to Textile Printing, London: Butterworth and Co. Ltd.
6. Rastogi, D. and Chopra, S.(Eds.) (2017)Textile science, India: Orient Black Swan Publishing Limited
7. Miles, L.W.C. (1994) Textile Printing, 2nd ed., West Yorkshire: Society of Dyersand Colorists, England.
8. Shenai, V.A. (1987) Chemistry of Dyes and Principles of Dyeing, Vol II, Bombay:Sevak Publications.
9. Shore, John (Ed) (1990) Colorants and Auxiliaries: Organic Chemistry and Application Properties, Vol. 1 & 2, West Yorkshire: Society of Dyers and Colorists, England.
10. Trotman, E. R. (1984) Dyeing and Chemical Technology of fibers, Sixth edition,England:Charles Griffin and Company Ltd.

Website Sources:

- [https://www.fabricfarms.com/principles-of design.html#:~:text=The%20elements%20of%20design%20include,scale%2C%20and%20harmony%20and%20unity.](https://www.fabricfarms.com/principles-of-design.html#:~:text=The%20elements%20of%20design%20include,scale%2C%20and%20harmony%20and%20unity.)
- <https://www.thesprucecrafts.com/stitches-every-embroiderer-should-know-4122123>
- <https://www.craftsvilla.com/blog/famous-indian-embroidery-styles/>
- Pdfdrive.com

IFTM University, Moradabad
Course Code: BHSC-604
EXTENSION TRAINING & MANAGEMENT

Course objectives

- To understand the concept of community development.
- To understand the need for community participation.
- To develop an understanding regarding importance of training.
- To understand the different mass media effective for rural campaigns.

UNIT 1 **(10 Sessions)**

Extension training concept. Characteristics, principles and psychological concepts used in training. Characteristics of adult learner. Factors affecting learner.

UNIT 2 **(8 Sessions)**

A) Extension training methods - individual, group, mass contact. B) Participation techniques (PRA) for training. C) Components of training-objectives, methods, instructional materials, monitoring & evaluation.

UNIT 3 **(8 Sessions)**

A) Training management. B) Meaning. C) Structure. D) System of management.

UNIT 4 **(10 Sessions)**

A) Functional aspects of Home Science training management .
B) Planning. C) Steps. D) Types. E) Decision making process.

UNIT 5 **(8 Sessions)**

Organizing human & non human resource of training. Behavioral aspects of management - motivation, leadership, strategy, creativity. Role of government and non-government agencies in regularizing training. Obstacles in management of training. Role of maintaining and evaluation in training.

Course outcomes:

By the end of the course the students will be able to:

- Comprehend the relationship between home science education with extension system.
- Familiarize with the structural and functional concepts of rural society.
- Acquire Knowledge regarding various existing extension and rural development programmes.

Suggested readings:

1. Singh, A.K., 2000; Agricultural Extension, Agrobios, Jodhpur, India.
2. Kumar, B. and Hansra, 2000; Extension Education for Human Resource Development, Concept Publishers, New Delhi
3. Agriculture extension in community development- Dr. J.G.Garg.
4. Introductory rural sociology –Dr. J.B. Chitamber
5. Social change in India – Kuppuswamy.

6. Adivi Reddy.A, Extension Education, Seventh Edition, Sri Lakshmi press, Bapatla
7. Dahama O.P. and Bhatnagar O.P, Education and Communication Development, Second Edition, Oxford and IBH Publishing Pvt. Ltd, Calcutta.
8. Rathore O.S, Dhakar S.D, Chauhan. M.S and ojha .S.N, Hand Book of Extension Education, First edition, Agrotech Publishing Academy, Udaipur.
9. Ray, G.L., 1996, Extension Communication and Management, Naya Prakash Publications, Calcutta.
10. Dubey, V.K. and Indira Bishnoi, 2008, Extension Education and communication, New Age International Publishers.

Website Sources:

- <http://www.fao.org/3/ca5007en/ca5007en.pdf>
- Pdfdrive.com
- <http://eagri.org/eagri50/AEXT392/lec03.html>

IFTM University, Moradabad
Course Code: BHSC-605
FURNITURE, FURNISHINGS AND FITTINGS

Course objectives

- To enable the students to learn about the types and importance of furniture
- To know about the selection, care and arrangement of furniture.
- To enable the students to learn about types of windows and window treatments
- To understand the role of fabric in interior decoration
- Develop skills in designing and construction of curtains.

UNIT 1

(8Sessions)

General Principles for furniture selection: cost, construction, durability, care of the furniture etc. Furniture design based on anthropometric dimensions. Styles of furniture – traditional, contemporary and modern. Upholstered furniture materials, techniques and designs.

UNIT 2

(8 Sessions)

Cane furniture, Glass furniture, Plastic furniture and PVC furniture, Wrought iron furniture, Wooden furniture.

UNIT 3

(6Sessions)

Furnishings Introduction to furnishings, Upholstery, draping of curtain fabrics, Floor coverings – tiles, stone, carpets and rugs, laminated, hard wood, engineering wood, Wall treatments, Ceiling treatments.

UNIT 4

(6Sessions)

Fittings Door and window fittings, parts and types of doors and windows, functional and decorative treatments Sanitary fixtures & fittings, Light fixtures and fittings.

UNIT 5

(8Sessions)

Estimating and Budgeting Need for an estimate, Types of estimate and Budgeting (preliminary, detailed, item rate), Specification, Tenders.

Course outcomes:

At the end of the course, the student will be able to:

- Understand the principles related to furniture design.
- Gain an understanding on the basic principles of designing furniture for a house and also the arrangement.
- Get familiarized with the different styles of furniture used and also the materials used.
- Acquire practical knowledge in designing space saving furniture's for different family needs.

Suggested readings:

1. Linley David; Classical Furniture; Pavillion Books Limited, London
2. Germer Jerry; Creating Beautiful Bathrooms. RA Creative House Owner

3. Deshpande; R.S. Modern Ideal Homes, Poona. UNITED Book Corporation.
4. Philips B, (2000), Hamlyn book of decorating, octopus publishing Ltd, London.
5. Clifton.c. etal (1991), The complete Home decorator conran octopus Ltd, London.
6. Luke. H., (1996), soft furnishings, New Holland publishers Ltd, Singapore.
7. Stepat, D.D, (1971), Introduction to Home furnishings, The Mac Millan Co, NewYork.
8. Wilhide, E and Copestick, I. (2000) contemporary decorating, conron octopus Ltd., London.
9. Levine M (1998), Living rooms, Rockport publishers, USA.
10. Faulkner. R and Faulkner. S, (1987), Inside today's home, Rinehart Winston, New York.

Website sources:

- <https://en.wikipedia.org/wiki/Furniture>
- <https://www.accountingtools.com/articles/2017/5/10/furniture-and-fixtures>
- Pdfdrive.com
- <https://www.slideshare.net/96vidya/furniturefixtures>
- <https://www.slideshare.net/pranjaljoshi2/fixtures-furniture-and-fitting-in-hotel-housekeeping>

IFTM University, Moradabad
Course Code: BHSC-606
ENTREPRENEURSHIP MANAGEMENT

Course objectives

To enable the students to:

- Understand the nature of entrepreneurial activities
- Seek self-employment ventures
- To impart information on the various sources of finance and also on the process of setting up small enterprise.
- Acquire skills in planning project proposals.

UNIT 1

(10 Sessions)

Entrepreneurship - Definitions, need, scope and characteristics of entrepreneurship, entrepreneurship development and employment promotion, Identification of opportunities.

UNIT 2

(6Sessions)

Business Environment for the entrepreneur - Government of India policy towards promotion of entrepreneurship. National and state level Institutions providing support to Small Scale UNITS in terms of finance, raw material & machinery.

UNIT 3

(10 Sessions)

Major steps involved in setting up a small scale project, identification, project formulation, resource mobilization Need, scope and approaches for project formulation. Market survey techniques, criteria and of product selection and development.

UNIT 4

(10 Sessions)

Critical path method, Project Evaluation, Review Techniques as planning tools for establishing SSI ,Plant layout and process planning for the product establishing the UNIT.

UNIT 5

(6Sessions)

Creativity and innovation problem solving, personnel management, performance appraisal, Quality control. Marketing and Marketing Management strategy, Packaging, Advertising, Sales promotion, Licensing and registration .Business Ethics.

Course outcomes:

After studying this course, the students would be able

- To build on personal as well as external resources with a view to successfully launch and subsequently manage their enterprises.
- To assess their strengths and weaknesses as entrepreneurs and identify how to strengthen their skills;
- To select appropriate form of business and arrange required start-up capital;
- Make sales, cost and cash flow plans;

- To know the legal responsibilities and advantages of insuring their business;
- They would have not only a definite idea as to which support/developmental agency to look up and for what purpose, but also the necessary know-how and other details and
- They acquire basic skills in operations, finance, marketing and human resource management.

Suggested readings:

1. Rathore B.S., 1999, Entrepreneurship in 21st Century, Wheeler Publishing.
2. Khanka, S.S., Entrepreneurial development, S, Chand & Company Ltd.
3. Singh, N.P., 1985, Emerging Trends in Entrepreneurship Development: Theories & Practices, New Delhi: Intercultural foundation for development management.
4. Akhouri, M.M.P. Entrepreneurship for women in India, New Delhi, NIESBUD, 1990.
5. Jain, D. Women's Employment, Possibilities of Relevant Research Institute of Social Studies, 1980.
6. Nayak, J. Pinto, T. and Costa, S. Towards Self reliance, Income Generation for Women, ISI Programme of Women's Development, 1980. 35
7. Paul, J: Kumar, N.J. and Mampilly, Paul J. Entrepreneurship development, Himalaya Publishing House, Mumbai, 1996. New Delhi, 1998.
8. Arora, S. P., Business Organization, Vikas Publishing House Pvt. Ltd. New Delhi, (1980)
9. Bhattacharyya, S.K Accounting for Management, Vikas Publishing House Pvt. Ltd., New Delhi
10. Bhushan, Business Organization, Sultan Chand & Sons, New Delhi, (1985)
11. Chetnakal, Women and Development, Discovery Publishing House, New Delhi (1991)
12. Desai, N. (1985). Women, Change and Challenges in the International Decade, Bombay, Popular prakashana pvt. Ltd.
13. Desai, V. (1996). Entrepreneurial Development – Principles, Programmes and Policies (Vol.I), Formulation, Appraisal and Financing (Vol. II) and Programmes and Performance (Vol. III), Bombay, Himalaya Publishing House.

Website Sources:

- <https://www.slideshare.net/basitnazir/entrepreneurship-management-31560291>
- <https://www.slideshare.net/karheng1/business-entrepreneurship-management>
- <https://www.slideshare.net/Simranpreet5/project-formulation-78389404>
- <http://www.fao.org/3/a-au766e.pdf>
- Pdfdrive.com
- <https://www.slideshare.net/zulfiquer732/project-management-tools-and-techniques-pert-project-evaluation-and-review-technique-cpm-critical-path-method>

IFTM University, Moradabad
Course CODE-BHSC-651
TEXTILE DESIGN

Course objective

To provide the knowledge and understanding of the traditional textile, theories, mechanism and use of various dyes and auxiliaries for dyeing and printing of textile substrates.

List of practical:

- A) Preparation of samples of all traditional embroideries.
- B) Preparation of samples / articles using various dyeing and printing techniques.

Course outcomes:

By the end of the course the students will be able to:

- Describe the process of dyeing of various fibers with different dyes.
- Understand the mechanism of dyeing with different dyes.
- Describe the methods and styles of printing.
- Explain about different Embroideries.

Suggested Readings:

1. Sodhia Manmeet, "Dress Designing", Kalyani publishers, New Delhi.
2. Lynton Linda, " The Sari", Thames & Hadson.
3. Anand M.R., "Textiles & Embroideries of India " Marg Publication Bombay, 1965.
4. Naik Shailaja D, " Traditional Embroideries of India" APH Publisher Corporation, New Delhi, 1996.
5. Chattopadhyay K, " Indian Embroidery", Wiley Eastern Ltd., New Delhi, 1977
6. Clarke. W. 1974. An Introduction to Textile Printing. London, Newness Butter Worth.
7. Anderson, F. 1974. Tie-dyeing and Batik. London, Octopus Editorial Production by Berkeley Publishers Ltd.
8. Smith, J.L. Textile Processing: Printing, Finishing, Dyeing.
9. H.Panda. Modern Technology of Textile: Dyes & Pigments.

Website Sources:

- <https://www.fabricfarms.com/principles-of-design.html#:~:text=The%20elements%20of%20design%20include,scale%2C%20and%20harmony%20and%20unity.>
- <https://www.thesprucecrafts.com/stitches-every-embroiderer-should-know-4122123>
- <https://www.craftsvilla.com/blog/famous-indian-embroidery-styles/>
- Pdfdrive.com

IFTM University, Moradabad
Course Code: BHSC-652
ENTREPRENEURSHIP MANAGEMENT

Course objectives

To enable the students to:

- Understand the nature of entrepreneurial activities
- Seek self-employment ventures
- To impart information on the various sources of finance and also on the process of setting up small enterprise.
- Acquire skills in planning project proposals.

List:

1. SWOT analysis with respect to entrepreneurial competencies through case profiling of successful entrepreneurs and enterprises.
2. Achievement Motivation lab-development of entrepreneurial competencies.
3. Survey of an institution facilitating entrepreneurship development in India.
4. Preparation of business plan.

Course outcomes

After studying this course, the students would be able

- To build on personal as well as external resources with a view to successfully launch and subsequently manage their enterprises.
- To assess their strengths and weaknesses as entrepreneurs and identify how to strengthen their skills;
- To select appropriate form of business and arrange required start-up capital;
- Make sales, cost and cash flow plans;
- To know the legal responsibilities and advantages of insuring their business;
- They would have not only a definite idea as to which support/developmental agency to look up and for what purpose, but also the necessary know-how and other details and
- They acquire basic skills in operations, finance, marketing and human resource management.

Suggested Readings:

1. Rathore B.S., 1999, Entrepreneurship in 21st Century, Wheeler Publishing.
2. Khanka, S.S., Entrepreneurial development, S, Chand & Company Ltd.
3. Singh, N.P., 1985, Emerging Trends in Entrepreneurship Development: Theories & Practices, New Delhi: Intercultural foundation for development management.
4. Akhouri, M.M.P. Entrepreneurship for women in India, New Delhi, NIESBUD, 1990.
5. Jain, D. Women's Employment, Possibilities of Relevant Research Institute of Social Studies, 1980.
6. Nayak, J. Pinto, T. and Costa, S. Towards Self reliance, Income Generation for Women, ISI Programme of Women's Development, 1980. 35

7. Paul, J: Kumar, N.J. and Mampilly, Paul J. Entrepreneurship development, Himalaya Publishing House, Mumbai, 1996. New Delhi, 1998.
8. Arora, S. P., Business Organization, Vikas Publishing House Pvt. Ltd. New Delhi, (1980)
9. Bhattacharyya, S.K Accounting for Management, Vikas Publishing House Pvt. Ltd., New Delhi
10. Bhushan, Business Organization, Sultan Chand & Sons, New Delhi, (1985)
11. Chetnakal, Women and Development, Discovery Publishing House, New Delhi (1991)
12. Desai, N. (1985). Women, Change and Challenges in the International Decade, Bombay, Popular prakashana pvt. Ltd.
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