PONDICHERRY UNIVERSITY

SCHOOL OF LIFE SCIENCES

NEP CURRICULUM & SYLLABI

FOR FOUR YEAR

B.SC. (HONOURS) HOME SCIENCE

[1 TO 8 SEMESTERS]

For

AFFILIATED COLLEGES

FROM THE ACADEMIC YEAR 2023-24 onwards

PONDICHERRY UNIVERSITY
UG BOS in HOME SCIENCE

B.Sc. (Hons.) Home Science [4 Years]

[With Single Major]

REGULATIONS

1. Learning outcomes/Employability/Skill focus of the Program:

1.	On completion of the course, students can design and carry out scientific experiments and also accurately record and analyze the data/results of such experiments. They can explain why home science is an integral activity for address in environmental and people problems.
2.	Graduates of B.Sc. Home Science may pursue a career path as dietician, medical coder, health counsellor, health educator, nutritionist, product executives, etc. and opportunities in food and beverage companies, cosmetics companies, edible oil companies, clinical facilities etc.
3.	Students can develop skills in problem solving, critical thinking and analytical reasoning as applied to scientific problems. They can develop ability to communicate the results of scientific work in oral, written, and electronic formats to both scientific community and the public community at large.
4.	Students will acquire skills to explore new areas of research in home science and allied fields of science and technology.

2. Titles of the Certificates / Diplomas for exiting students (2 to 3 Certificates / Diplomas based on specialized internship undergone by the students)

1.	Certificate in Home Science
2.	Diploma in Home Science
3.	B.Sc. Home Science
4.	B.Sc.(Hons.)Home Science

3. Value-added certificate / skill certification /certificates based on Indian Traditional Knowledge

1.	Understanding India
2.	Environmental Science/Education
3.	Health & Wellness, Yoga Education, Sports, and Fitness
4.	Digital and Technological Solutions

4. Basic Eligibility for Admission of Students (Required subjects at + 2 level and % of Marks)

1.	Pass in Higher Secondary Examination or equivalent (10+2) with Biology / Chemistry /Home Science / Home Science (vocational) as one of the subjects of study with a minimum of 40% of marks or equivalent stage of education toLevel-4 (Levels in NHEQF).

5. Total number of Teachers required to handle different subjects (along with their qualification / specialization)

Sl. No	**Cadre**	**No of faculty members required**	**Qualifications Required**	**Specialization Required**
1.	Professors	As per UGC Guideline	As per UGC Guideline	As per UGC Guideline
2.	Associated Professor	7 for 3 years B.Sc. Course +2 for 4th year B.Sc.(Hons.)	As per UGC Regulations	Home Science or 1. Food Science & Nutrition/ Clinical Nutrition & Dietetics/ Food Service Management & Dietetics 2. Family Resource Management/ 3. Extension Education & Communication/ 4. Textile, Design & Clothing/ 5. Human Development
3.	Assistant professor			
4.	Tutors/ Teaching Assistants/ Lab Demonstrators	1	As per UGC Regulations	Home Science/ Science
5.	Technical Staff	1	As per UGC Regulations	Science/ Home Science

6. Bridge courses to be organized for other Disciplinary students (Max 10 sessions with zero credits)

NIL

7. Number of classrooms, number of Science/ Engineering/ Computer Labs and Equipment Required for each lab (including English Lab and ICT Labs for conducting Practical/ Number of computers/ Computer labs required)

S. No.	Class Rooms	Labs
1.	4 Nos. (I, II, III, and IV year classrooms)	Food Science Lab–1 Nos. Textile and clothing Lab – 1Nos. Home Science Lab – 2 No. Project Home Science Lab– 1 No.
2.		
3.		

8. Software or Databases for conduct Computer Lab practical's / major stores for science labs:

1.	Computers required: 4 Nos (For project work & report preparation)
2.	Windows Operating System
3.	MS Office Software
3.	Anti-Virus Software

9. Lab running Expenses/Stores:

a) Budget for conducting Science labs --- Rs.1,00,000 per year

b) Budget for conducting Engineering practical: --- NA

c) Budget for computer lab running expenses: --- Rs. 10,000 (for computer maintenance)

d) Budget for conducting IVs / Fieldworks/ Internships, etc.--- Rs. 50,000 per year

10. List of basic Text Books for the entire course (At least one per subject)

a) List of Basic textbooks (for all subjects) --- As per the references cited in the syllabus

b) List of Journals to be Subscribed --- As per the references cited in the syllabus

c)List of Magazines / Newspaper needed --- As per the references cited in the syllabus

d)Approximate Library Budget --- Rs. 50,000 per year

11. Essential knowledge / Skills required: (Handling of All Science Lab. / Basic Computer knowledge / English communication/ Typing, etc.)

12. STRUCTURE OF THE UNDERGRADUATE PROGRAMME

Table1: Breakup of Credits and Courses-Minimum requirement

S.No	Component	3 Year UG	4 Year UG (Honors)
1	Major Disciplinary/ Interdisciplinary Courses	60 Credits (15 Courses Of 4 credits)	80 Credits (20 Courses of 4 credits)
2	Minor Disciplinary /Interdisciplinary Courses(Vocational program included)	24 Credits (6 Courses Of 4 Credits)	32 Credits (8 Courses of 4 credits)
3	Multi-Disciplinary Courses	9 Credits (3courses Of 3 credits)	9 Credits (3 courses of 3 credits)
4	Ability Enhancement Courses	12 Credits (4 courses Of 3 credits)	12 Credits (4 courses of 3 credits)
5	Skill Enhancement Course	9 Credits (3 courses Of 3 credits)	9 Credits (3 courses of 3 credits)
6	Value-added courses	8 Credits (4 courses Of 2 credits)	8 Credits (4 courses of 2 credits)
7	Summer internship	(4 credits-Included in Major courses of 60 credits)	(4 credits-Included in Major courses of 80 credits)
7	Community engagement and service	2 Credits (1 course)	2 Credits (1 course)
8	Research Dissertation Project	-	12 Credits
9	Total	124	164

Note: Honors students not undertaking research will do 3 courses for12credits In lieu of a project.

PONDICHERRY UNIVERSITY
SCHOOL OF LIFE SCIENCES NEP FYUG
As on March 25th 2024

Semester	Major	Minor	Multi-Disciplinary	Ability Enhancement Courses (Language)	Skill Enhancement courses	Value added courses	Summer Internship	Community Engagement and Service	Research Project	Total Credits
I	Basics of Home Science (4)	Food Preservation (4)	Common Syllabus (3)	University Common Course (UCC)	Food Safety and Quality Control (3)	UCC	NA	NA	NA	
Credits	4	4	3	3	3	4				21
II	Introduction to Human Development (3+1)	Household Cleaning and Pest Control (4)	UCC	UCC	Early Childhood Care and Education (3)	UCC	NA	NA	NA	
Credits	4	4	3	3	3	4				21
III	Food Ingredients (3+1P)	Family Dynamics (4)	UCC	UCC	Apparel designing (3)	NA	NA	NA	NA	

	Fundamentals of Textiles (3+1)									
Credits	8	4	3	3	3					21
Exit option after 84 credits: UG Diploma provided secure 4 credits of internship										
V	Dietetics for Normal Conditions (3+1) Fundamentals of Human Nutrition (4) Residential Space Planning (4)	Minor paper is opted from other department of Natural Sciences (Life/ Physical)	NA	NA	NA	NA	Summer Internship	NA	NA	
Credits	12	4					4			20
VI	Dietetics for Therapeutic Conditions (3+1) Principles Resource Management	Minor paper is opted from other department of Natural Sciences (Life/ Physical)	NA	NA	NA	NA	NA	NA	NA	

	(4) Clothing Care & Construction (4) Communication for Development (4)									
Credits	16	4								20
Exit option after 124 credits: UG degree										
VII	Child rights and gender empowerment (4) Extension Education and Management (4) Research Methodology and Statistics (4)	Minor paper is opted from other department of Natural Sciences (Life/ Physical)	NA	NA	NA	NA	NA	NA	NA	
Credits	12	8								20

VIII	Recent Trends in Home Science (4) Guidance and Counseling (4)	NA	NA	NA	NA	NA	NA	NA	Project Research (12) or Ergonomics (4) Nutrition in Emergencies & Disaster Management (4) NGO & Corporate Social Responsibility (4)	
Credits	8								12	20
Total Credits	76	32	9	12	9	8	4	2	2	164

13. Description of courses

i. Major Discipline (60 to 80 Credits)

Major discipline is the discipline or subject of main focus and the degree will be awarded in that discipline. Students should secure the prescribed number of credits (not less than 50% of the total credits) through core courses in the major discipline. The major discipline would provide the opportunity for a student to pursue in-depth study of discipline. A student may choose to change the major discipline with in the broad discipline at the end of the second semester provided all the pre-requisites of the respective degree program are fulfilled.

ii. Minor Discipline (24 to 32 credits)

Minor discipline helps a student to gain a broader understanding beyond the major discipline. For example, if a student pursuing Food Technology as major, then minor courses may be from Food Technology/ Food Nutrition/ other department of Natural sciences (Life/Physical) for which a pool of courses will be offered by the parent department/ other departments of Natural sciences (Life/Physical).

24 credits of minor courses in the 3-year program can be Disciplinary or Interdisciplinary courses or a mix of both. 50%of the total credits from minors must be secured in the relevant subject/discipline and another 50% of the total credits can be from any discipline of students' choice.

12 credits (50%) of the Minor (Disciplinary / Interdisciplinary) in the 3-year program should be related to vocational education/ training courses.

Type of Minor	**Credits**
Disciplinary/Interdisciplinary	12cr
Disciplinary/Interdisciplinary-vocational	12cr

16 credits (50%) of the Minor (Disciplinary / Interdisciplinary) in the 4-year program should be related to vocational education/ training courses.

Type of Minor	Credits
Disciplinary/Interdisciplinary	16cr
Disciplinary/Interdisciplinary-vocational	16cr

iii. Multidisciplinary courses (MLD): 9 credits

All UG students are required to undergo 3 introductory-level courses relating to any of the broad disciplines given below. These courses are designed and developed by every department for the benefit of other discipline students and are pooled by SAMS under 5 baskets for students to choose any 3 courses from 3 broader areas (one each from any three broad areas from below) from the basket. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12^{th} class) under this category.

a) ***Natural and Physical Sciences:*** Students can choose basic courses from disciplines such as Natural Science, for example, Biology, Botany, Zoology, Biotechnology, Biochemistry, Chemistry, Physics, Biophysics, Astronomy and Astrophysics, Earth and Environmental Sciences, and other related subjects.

b) ***Mathematics, Statistics, and Computer Applications:*** Courses under this category will facilitate the students to use and apply tools and techniques in their major and minor disciplines. The course may include training in programming software like Python among others and applications software like STATA, SPSS, Tally and similar others. Basic courses under this category will be helpful for science and social science in data analysis and the application of quantitative tools.

c) ***Library, Information, and Media Sciences*:** Courses from this category will help the students to understand the recent developments in information and media science (journalism, mass media, and communication)

d) ***Commerce and Management:*** Courses include business management, accountancy, finance, financial institutions, fin tech and other related subjects.

e) ***Humanities and Social Sciences:*** The courses relating to Social Sciences, for example, Anthropology, Communication and Media, Economics, History, Linguistics, Political Science, Psychology, Social Work, Sociology and other related subjects will enable students to understand the individuals and their social behavior, society, and nation. Students be introduced to survey methodology and available large-scale databases for India. The list of Courses that can include interdisciplinary subjects such as Cognitive Science, Environmental Science, Gender Studies, Global Environment & Health, International Relations, Political Economy and Development, Sustainable Development, Women's and Gender Studies and similar subjects will be useful to understand society.

iv. Ability Enhancement Courses (AEC):12credits

Modern Indian Language (MIL) & English language focused on language and communication skills:

Students are required to achieve competency in a Modern Indian Language (MIL) and in the English language with special emphasis on language and communication skills. The courses aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills, that help students articulate the arguments and present the thinking clearly and coherently and acquaint with the cultural and intellectual heritage of languages.

v. Skill Enhancement Courses (SEC):9credits

These courses are aimed at imparting practical skills, hands-on training, soft skills, and other skills to enhance the employability of students. The institution may design courses as per the students' needs and available institutional resources. Skill based courses could be related to disciplinary/ interdisciplinary minors and vocational education programs chosen/ offered.

vi. **Value-Added Courses (VAC) Common to All UG Students: 8 credits**

a) ***Understanding India:*** This course aims at enabling the students to acquire and demonstrate the knowledge and understanding of contemporary India with its historical perspective, the basic framework of the goals and policies of national development, and the constitutional obligations with special emphasis on constitutional values and fundamental rights and duties. The course would also focus on developing an understanding among student- teachers of the Indian knowledge systems, the Indian education system, and the roles and obligations of teachers to the nation in general to the school/ community/ society. The course will attempt to deepen knowledge about and understanding of India's freedom struggle and of the values and ideals that it represented to develop an appreciation of the contributions made by people of all sections and regions of the country, and help learners understand and cherish the values enshrined in the Indian Constitution and to prepare them for their roles and responsibilities as effective citizens of a democratic society.

b) ***Environmental Science/ Education:*** This course seeks to equip students with the ability to apply the acquired knowledge, skills, attitudes, and values required to take appropriate actions for mitigating the effects of environmental degradation, climate change, and pollution, effective waste management, conservation of biological diversity, management of biological resources, forest and wildlife conservation, and sustainable development and living. The course will also deepen the knowledge and understanding of India's environment in its totality, its interactive processes, and its effects on the future quality of people's lives.

c) ***Digital and Technological Solutions***: Courses in cutting-edge are as that are fast gaining prominences, such as Artificial Intelligence (AI), 3-D machining, big data analysis, machine learning, drone technologies, and Deep learning with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

d) ***Health &Wellness, Yoga Education, Sports, and Fitness:*** Course components relating to health and wellness seek to promote an optimal state of physical, emotional, intellectual, social, spiritual, and environmental well-being of a person. Sports and fitness activities will be organized outside the regular institutional working hours. Yoga education would focus on preparing the students physically and mentally for the integration of their physical, mental, and spiritual faculties, and equipping them with basic knowledge about one's personality, maintaining self- discipline and self-control, to learn to handle oneself well in all life situations.

vii. Vocational Training/ Education: 12 Credits

These courses are meant to provide the students with adequate knowledge and skills for employment and entrepreneurship. Departments are expected to incorporate the requirements of related industries while designing these courses to groom the students to take up gainful employment or becoming entrepreneurs. Vocational education courses designed by each department should relate the skills provided with the content of general education in order to ready the students for work at each exit point of the program. A minimum of 12 credits will be allotted to the minor stream relating to vocational education and training.

viii. Summer Internship: 4 Credits

- The Home Science Department has network with R & D Labs/ PSUs/ Govt. Departments/Academic Institutions for facilitating student internships.
- The transformed education should improve employability of students by providing internships/ skill development.
- Opportunities for Internships with local industry, businesses, artists and craft persons to improve the employability of students.
- All students will undergo internships / Apprenticeships in a firm, industry, or organization or Training in labs with faculty and researchers in their ow nor other HEIs/ research institutions during the summer term. Students will be provided with opportunities for internships to actively engage with the practical side of their learning and, as aby-product, further improve their

employability.

ix. Community Engagement and Service: 2 Credits

The curricular component of 'community engagement and service' seeks to expose students to the socio-economic issues in society so that the theoretical learnings can be supplemented by actual life experiences to generate solutions to real-life problems. This can be part of summer term activity or part of a major or minor course depending upon the major discipline. Community Engagement shall be conducted for a minimum of 2 weeks.

x. Research Project /Dissertation: 12 Credits

Students choosing a 4-Year Bachelor's degree (Honors with Research) are required to take up research projects under the guidance of a faculty member. The students are expected to complete the Research Project in the eighth semester.

xi. Audit courses: 0 credits

Audit courses offered do not carry any credits. Evaluation will be based on continuous assessment. Students may be given a pass or fail (P/F) based on the assessment that may consist of class tests, homework assignments, and/ or any other innovative assessment methodology suitable to the expected learning outcome, as determined by the faculty in charge of the course of study.

14. Levels of the Courses

Courses can be coded based on the academic rigor. The first four letters of the course code indicate the department/Centre, followed by the academic rigor level code in digits (For e.g., Engl201). The coding structure follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide abroad basis for taking up more advanced courses.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level Courses which are required for majoring in a disciplinary/ interdisciplinary area of study for the award of a degree.

400-499: Advanced Courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year post-graduate theoretical and practical courses.

15. Credit-hours for different types of courses

A three-credit lecture course in a semester means three one-hour lectures per week with each one-hour lecture counted as on credit. One credit for tutorial work means one hour of engagement per week.

A one-credit course in practicum or lab work, community engagement and services, and field work in a semester mean two- hour engagement per week. In a semester of 15 weeks' duration, a one-credit practicum in a course is equivalent to 30 hours of engagement. A one-credit of Seminar or Internship or Studio activities or Field practice/ projects or Community

Engagement and service means two-hour engagements per week. Accordingly, in a semester of 15week duration, one credit in these courses is equivalent to 30 hours of engagement.

Lecture courses: Courses involving lectures relating to a field or discipline by an expert or qualified personnel in a field of learning, work /vocation or professional practice.

Tutorial: Courses involving problem solving and discussions relating to a field or discipline.

Seminar: A course requiring students to participate in structured discussion/conversation or debate focused on assigned tasks/readings, current or historical events, or shared experiences guided or led by an expert or qualified personnel in a field of learning, work/vocation or professional practice.

Internship: A course requiring students to participate in professional employment• related activity or work experience, or cooperative education activity with an entity external to the education institution, normally under the supervision of an employee of the given external entity.

Laboratory work /activity: A course requiring students to discover/ practice application of a scientific or technical principles/ theories. The course may require scientific, or research focused experiential work where students observe, test, conduct experiment(s) or practice application of principles/ theories relating to field of learning, work/vocation or professional practice.

Studio activities: Studio activities involve engagement of students in creative or artistic activities. Studio-based activities involve visual-or aesthetic-focused experiential work.

Workshop-based activities: Courses involving workshop- based activities requiring engagement of students in hands- on activities related to work/ vocation or professional practice.

Field practice/projects: Courses requiring students to participate in field-based learning/ project generally under the supervision of an employee of the given external entity.

16. Continuous Assessment and End Semester Examination marks and evaluation of skill based /vocational courses /Internships and other hands on /field-based courses

- All theory courses in a UG programme shall carry a continuous assessment component of 25 marks and end semester assessment component of 75 marks.
- In case of skill-based courses, vocational education courses, internships, practical, lab/ field/ project works, community service and related skill-based activities, the evaluation pattern may be decided by the Program Committee. The evaluation methods will be based on the learning outcomes planned for such courses following the NEP guidelines of Pondicherry University.
- Internal Assessment of Skill Enhancement courses (SEC)

Total Marks 50	Skills Acquired by completion of the course (Developments of tools/kits/aids/samples etc) (20)	Conduct/Lab (by giving practical tasks/ submission of practical assignments) 15	Record (10)	Attendance (5)

Continuous Assessment Component (Sessional)

- Evaluation will be based on continuous assessment carried out through activities spread over a complete semester based on the learning outcomes listed. Sessional work consists of class tests, at least one mid-semester examination, homework assignments, and any other innovative assessment methodology as determined by the faculty in charge of the course of study. Progress towards achievement of learning outcomes shall be assessed using the following: time-constrained examinations; closed-book and open-book tests; problem-based assignments; practical

assignments; laboratory reports; observation of practical skills; individual project reports(case-study reports);team project reports; oral presentations, including seminar presentation; viva voce interviews; computerized adaptive assessments, examination on demand, modular certifications and other suitable assessments methods.

- All Credit courses are evaluated for 100 marks. Internal Assessment component is for 25 marks and the End Semester University exam is for 75 marks. In case of Practical, Project work, skill enhancement etc., it is 50:50 marks for Internal and End-Semester Exams. Total Marks from continuous assessments may be up to 40% of the total.

Break up of Internal Assessment marks:

Total Internal Assessment mark for a **theory subject** is25 marks.
The breakup is:

a)	Mid Semester Exam(one)-20Marks
b)	PercentageofAttendance-5Marks
Total-25Marks	

Marks for Attendance is as follows:

Below70%	0
70%-80%	1
80%-85%	2
85%-90%	3
90%-95%	4
95%-100%	5

- **Internal Test Scheme:**

Principal of the College schedules the Mid-Semester Exam for all courses during 8/9th week of start of classes. All faculty members are expected to conduct this Mid-Semester exam for 1hour 30minute duration and evaluate, upload the marks to Controller of Examinations of University. Colleges are also requested to preserve the answer books of Mid-Semester exams until declaration of results by the University.

- **Internal Assessment marks for Practical/Project work/Internships subjects:**

Faculty member in-charge of Lab practical shall evaluate the practical subjects for 50 marks. The break up is as follows:

a) Observation note/Demo note/Work Diary	20
b)Practical Record/Internship Report	30
Total	**50**

Assessment for Theory paper

Internal Assessment	Semester End Exam	Total
25 marks	75 marks	100 marks

Assessment for Practical paper

Internal Assessment	Semester End Exam	Total
25 marks	25 marks	50 marks * reduced to 25 marks

Note: * The practical examination shall be conducted for 50 marks and reduced to 25 marks

Assessment for Skill Enhancement paper

Internal Assessment (50 marks)			External Assessment (50 marks)			Total (100 Marks)
Skill acquired/ Development of tools/kits/ Aids/ Samples, etc.	Conduct/ Lab (by giving practical tasks/ submission of practical assignments)	Record	Viva Voice	Exam	Submission of tool or kit	
20 marks	15 marks	15 marks	15 marks	25 marks	10 marks	100 marks

Assessment for Community Engagement paper

Internal Assessment	**External Assessment**	**Total**
Project report	**Presentation and Viva Voice**	
25 marks	25 marks	**50 marks**

Assessment for Internship

Internal Assessment	**External Assessment**	**Total**
Project report	**Presentation and Viva Voice**	
50 marks	50 marks	**100 marks**

17. End-Semester Examination and Evaluation

End-Semester Examination shall be conducted for all courses offered in the department after ensuring that the required number of classes and related activities are completed.

The duration of the end semester examination may be 3 hours.

End-Semester pattern of QP:

The breakup of end semester marks:

a)Theory subjects (Sec A, Sec B and Sec C pattern with Questions from all units of syllabus)	75marks
b) Practical/Internship Project Work subjects(Based on Practical Exams/Presentation	50 marks

A schedule of End semester examinations will be announced by the department about 15 days ahead of the conduct of examinations.

The responsibility of question paper setting, invigilation and valuation of answer papers lie with the course teachers. However, all assessments shall be conducted under the uniform practices of the department approved in the program committee.

However, the departments/faculty members are free to decide the components of continuous assessment and the method of assessment based on the nature of the course and are expected to communicate these to students and respective HODs at the beginning of the semester.

Mid semester /end semester examinations schedule notified by the University in the academic calendar shall be uniformly followed.

Question Paper Pattern for End Semester Theory Examination

Duration: 3 hour **Max. Mark: 75**

SECTION–A:(10x2=20Marks)

- It is of short answer type. Each question carries 2 marks.
- 10 questions to be given by selecting 2 questions from each unit.
- Candidate should Answer all the questions.

SECTION–B:(5x5=25Marks)

- It is of short answer type. Each question carries 5 marks.
- 5 questions to be given with either or choice,1 question from each unit.
- Candidate should answer all 5 questions.

SECTION–C:(3x10=30Marks)

- It is of essay answer type. Each question carries 10 Marks.
- 5 questions to be given. One question from each unit.
- Candidate should answer 3 out of 5 questions.

18. Minimum Marks for Pass

A student shall be declared to have passed the course only if she/he gets,

A minimum of 40% marks in end semester exam and

A minimum of 50% marks in aggregate when continuous assessment and end semester examination marks are put together.

19. Entry /Exit Specifications (Basic eligibility /Subjects studied)

1.	Certificate in Major Disciplinary course for exiting students after 1 year with no arrears provided that they undergo 4 credits Internship during Summer Vacation in the given stream of skill training.
2.	UG Diploma in Major Disciplinary course for exiting students after 2 years with no arrears provided that they complete 4 Cr Summer Internship for 45 Days.
3.	A Bachelor Degree in Major Disciplinary course after completing 3 Years (6 Semesters) of Program of Study without any arrears.
4.	A 4 year Bachelor Degree with Honors after completion of 8 Semesters (4 Years) of Program of Study and a Research Project in final semester or 3 theory papers in lieu of Research Project, without any arrears.

20. Supplementary examination

A student who gets F grade in a course shall be permitted to register for the supplement examination in the following semester or in the subsequent semesters.

A student who gets F grade in a course shall be given an option either to retain the previously awarded continuous assessment mark or to improve it, and the higher mark out of these two options will be considered for the supplementary examination.

A student who gets Ab grade in a course /practicum/ vocational course/ internship/ practicum or any other hands-on skill related course is mandated to repeat the course and undergo all the stages of assessment in subsequent semesters.

21. Attendance Requirement

No student who has less than 70% attendance in any course shall be permitted to participate in end semester examination and she/he shall be given 'Ab' grade, -failure due to lack of attendance. she/he shall be required to repeat that course as and when it is offered.

22. LETTER GRADES AND GRADE POINTS

Performance of students in each paper will be expressed as marks as well as Letter Grades.

Letter Grade	**Grade Point**
O(outstanding)	10
A+(Excellent)	9
A(Very good)	8
B+(Good)	7
B(Above average)	6
C(Average)	5
P(Pass)	4
F(Fail)	0
Ab(Absent)	0

As per NEP Regulations, the passing minimum is 50% marks (IA + End semester put together) However, Pondicherry University considers 40% marks as pass during first 3 years of study and students who secured less than 50 will be awarded 'P' (Pass Grade).

In case of fractions the marks shall be rounded off to nearest integer. The class interval K will be the formula given below: K=(X-50)/6, where X is the highest mark secured.

According to K value, one of the following grading scheme will be followed.

IfK≥5, then the grades shall be awarded as given in Table II.

Table II		
Range of Marks in %	**Grade Points for**	**Letter Grade Points for**
X to (X-K)+1	O	10
(X-K) to (X-2K)+1	A+	9
(X-2K) to (X-3K)+1	A	8
(X-3K) to (X-4K)+1	B+	7
(X-4K) to (X-5K)+1	B	6
(X-5K) to 50	C	5
40 –49	P	4
Below 40	F	0
Absent (Lack of Attendance)	Ab	0

If K<5, then the grades shall be awarded as given in Table III.

Table III		
Range of Marks in%	**Grade Points for**	**Letter Grade Points for**
80-100	O	10
71-79	A+	9
66-70	A	8
61-65	B+	7
56-60	B	6
50-55	C	5
40-49	P	4
Below40	F	0
Absent (lack of attendance)	Ab	0

The Semester Grade Point Average (SGPA) is computed from the grades as a measure of the student's performance in a given semester. The SGPA is based on the grades of the current term, while the Cumulative GPA (CGPA) is based on the grades in all courses taken after joining the program of study.

Computation of SGPA and CGPA

The following procedure shall be followed to compute the Semester Grade Point Average (SGPA)and Cumulative Grade Point Average (CGPA):
The SGPA is the ratio of the sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e. **SGPA**(Si)=Σ(CixGi)/ ΣCi

Where Ci is the number of credits of the i^{th} course and Gi is the grade point scored by the student in the i^{th} course.

(i) Example for Computation of SGPA where candidate has not failed in any course.

Semester	**Course**	**Credit**	**Letter Gr**	**Grade point**	**Credit Point** (Credit x Grade)
I	Course1	3	A	8	3X8=24
I	Course2	4	B+	7	4X7=28
I	Course3	3	B	6	3X6=18
I	Course4	3	O	10	3X10=30
I	Course5	3	C	5	3X5=15
I	Course6	4	B	6	4X6=24
		20			139
	SGPA				139/20=6.95

(ii) Example for Computation of SGPA where candidate has failed in one course.

Semester	**Course**	**Credit**	**Letter Grade**	**Grade point**	**Credit Point** (Credit x Grade)
I	Course1	3	A	8	3X8=24
I	Course2	4	B+	7	4X7=28
I	Course3	3	B	6	3X6=18
I	Course4	3	O	10	3X10=30
I	Course5	3	C	5	3X5=15
I	Course6	4	F	0	4X0=00
		20			115
	SGPA				115/20=5.75

(iii) Example for Computation of SGPA where candidate has failed in two courses.

Semester	**Course**	**Credit**	**Letter Grade**	**Grade point**	**Credit Point** (Credit x Grade)
I	Course1	3	A	8	3X8=24
I	Course2	4	B+	7	4X7=28
I	Course3	3	F	0	3X0=00
I	Course4	3	B	6	3X6=18
I	Course5	3	C	5	3X5=15
I	Course6	4	F	0	4X0=00
		20			85
	SGPA				85/20=4.25

The CGPA shall also be calculated in similar way as shown in examples (i), (ii) and (iii) of SGPA for all subjects taken by the students in all the semesters. However, if any student fails more than once in the same subject, then while calculating CGPA, the credit and

grade point related to the subject in which the student fails in multiple attempts will be restricted to one time only. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts. In case of audit courses offered, the students may be given (P) or (F) grade without any credits. This may be indicated in the mark sheet. Audit courses will not be considered towards the calculation of CGPA.

23. Approved list of SWAYAN/ MOOCS courses (for substituting the courses)/ (Maximum number of credits Transferable):

NIL

24. List of Institutions/organizations to collaborate for joint degree/dual degree/training arrangement under internationalization of education:

NIL

25. Field of specializations for which Professors of practice needed to be invited:

NIL

26. Evaluation procedure of Research Project Report at the VIII semester of UG(Hons)degree:

	Internal	**External**
Project Report Submission	40%	40%
Project Presentation/Viva	10%	10%
Total	50%	50%

I LIST OF MAJOR COURSES (Home Science as Single Major)

Sl No	Nature of Course	Course code	Title of the Course	Credit	No. Hrs Of Teacher
1.	Major 1	BHSC101	Basics of Home Science	4	5
2.	Major 2	BHSC102	Introduction to Human Development	3+1	3L+1T+2P
3.	Major 3	BHSC201	Food Ingredients	3+1	3L+1T+2P
4.	Major 4	BHSC202	Fundamentals of Textiles	3+1	3L+1T+2P
5.	Major 5	BHSC203	Food Science	3+1	3L+1T+2P
6.	Major 6	BHSC204	Housing and Interior Decoration	3+1	3L+1T+2P
7.	Major 7	BHSC206	Human Physiology	4	5
8.	Major 8	BHSC301	Dietetics for Normal Conditions	3+1	3L+1T+2P
9.	Major09	BHSC302	Fundamentals of Human Nutrition	4	5
10.	Major10	BHSC303	Residential space planning	4	5
11.	Major11	BHSC304	For UG, Summer internship of 45days Duration has to be considered.	4	45 days
12.	Major12	BHSC305	Dietetics for Therapeutic conditions	3+1	3L+1T+2P
13.	Major13	BHSC306	Principles of Resource Management	4	5
14.	Major14	BHSC307	Clothing care and construction	4	5
15.	Major15	BHSC308	Communication and Development	4	5
16.	Major16	BHSC309	Child rights and gender empowerment	4	5
17.	Major17	BHSC401	Extension education and management	4	5
18.	Major18	BHSC402	Research methodology and statistics	4	5
19.	Major19	BHSC403	Recent trends in Home Science	4	5
20.	Major20	BHSC404	Guidance and counseling	4	5
Project Work or Following three theory					
21.	Major21	BHSC501	Ergonomics	4	5
22.	Major22	BHSC502	Nutrition in emergencies and disaster management	4	5
23	Major 23	BHSC503	NGOs & Corporate Social Responsibility	4	5

Note: Courses with 3+1 credit means 3hr of lecture, 1 hr of tutorial and 2 hr of Practical

II LIST OF MINOR COURSES (ELECTIVES/ALLIED/SPECIALISATION)

Eight Credits from each stream have to be taken. 12 credits (50%) of the Minor (Disciplinary / Interdisciplinary) (Stream II and III) in the 3-year program should be related to vocational education/ training courses. These courses will be floated depending on the number of students registering and the availability on the faculty. The number students may be restricted depending on the available class room facility and first-cum-first serve basis.

a. Minor Stream I (Within the Major – 8 credit to be taken)

Course code	Title of the Minor Course	Credits	No. Hrs of Teacher
Minor 1/ BHSC 103	Food Preservation	4	5
Minor 2 / BHSC 104	Household Cleaning and Pest Control	4	5
Minor 3 / BHSC 105	Children with special needs	4	5
Minor 4 / BHSC 106	Advanced Nutrition	4	5
Minor 5 / BHSC 107	Design and Décor of Surface	4	5
Minor 6 / BHSC 108	Food Laws and Regulations	4	5

b. Minor Stream II (From other discipline of the department– 8 credit to be taken) *

Course code	Title of the Minor Course	Credit	No. Hrs. of Teacher
Minor 1/ BHSC 207	Family Dynamics	4	5
Minor 2 / BHSC 208	Applied Art on Textiles	4	5
Minor 3 / BHSC 209	Functional Foods	4	5
Minor 4 / BHSC 210	Tourism and Hospitality Management	4	5
Minor 5 / BHSC 211	Programs for Rural & Urban Development	4	5
Minor 6 / BHSC 212	Entrepreneurship Development	4	5

* Other department student of Natural sciences (Life/Physical) may also take from these minor courses

c. Minor Stream III (From other department of Natural sciences (Life/Physical)– 8 credit to be taken) *

Course code	Title of the Minor Course	Credits	No. Hrs. of Teacher
	Student of home science will take from the list of minor subjects of other departments		

III MULTIDISCIPLINARY COURSES*

Sl. No.		Title	Credits	No. Hrs. of Teacher
NATURAL SCIENCE- choose any one (I SEMESTER)				
	1.	Herbal Nutrition **	3	4
	2.	Basic botany	3	4
	3.	Basic Zoology	3	4
	4.	Basic Microbiology	3	4
	5.	Fundamentals of Biotechnology	3	4
PHYSICAL SCIENCES- choose any one (II SEMESTER)				
	1.	Electronics in Everyday Life	3	4
	2.	Chemistry in Everyday Life	3	4
	3.	Science and Society	3	4
	4.	Energy in Everyday Life	3	4
	5.	Basic Mathematics	3	4
HUMANITIES/ SOCIAL SCIENCES- choose any one (III SEMESTER)				
	1.	Basic Economics Concepts and Measurement	3	4
	2.	Basics of Accounting	3	4
	3.	French for Beginners	3	4
	4.	Commercial Geography	3	4
	5.	Introduction to Public Administration	3	4

***Common syllabus for all UG courses for other departments. Student of Home Science will take course from other department

** Herbal Nutrition will be offered by Dept. of Home Science to other departments.

Note: MLD streams to be chosen as per the updated PU guidelines.

IV ABILITY ENHANCEMENT COURSES*

All Undergraduate (UG) students are mandated to complete at least 8 Credits worth of Courses which focus on Communication and Linguistic skills, Critical reading, writing skills. These courses are expected to enhance the ability in articulation and presentation of their thoughts at workplace. Colleges may design feasibility enhancement courses tuned to the requirements of given major discipline.

Ability Enhancement Course	
. English Language (any two courses) English Language & Literature – 1and 2 Functional English– 1 and 2 Communicative English–1and2	. Indian Language (any two courses) Indian language& Literature – 1and 2 Functional language– 2 Communicative language–1and2

*****Common syllabus for all UG courses, Institute will design the syllabus

*All UG courses will have 4 credits of English and 4credits of Indian Language

V SKILL ENHANCEMENT COURSES (ONLINE COURSES FROM SKILL INDIA)

Sl No	Title of the Skill/Vocational courses	Credits	No. Hrs. of Teacher
Skill 1	Food Safety and Quality Control	3	4
Skill 2	Early Childhood Care and Education	3	4
Skill 3	Apparel Designing	3	4

VI. VALUE ADDED COMMON COURSES (VAC) (8 credit)

Under NEP, the UGC has proposed for 6 to 8 credits worth of common courses which are likely to add value to overall knowledge base of the students. These courses include:

a. Understanding India

b. Environmental Studies

c. Digital Technologies

d. Health, Wellness, Yoga Education, Sports & Fitness

The course structure and coverage of topics are suggested by UGC in its draft documents, colleges/UG Boards of Studies may design the methodology for conducting these value added courses. Common syllabus for all UG courses, Institute will design the syllabus

* Students exiting the programme after securing 42 credits will be awarded UG Certificate in Home Science provided they secure 4 credits in work based vocational courses offered during summer term or internship/ Apprenticeship in addition to 6 credits from skill-based courses earned during I & II semester. Summer Internship could be initiated during holidays and continued to the III semester.

*Students exiting the programme after securing 84 credits will be awarded UG Diploma in Home Science, provided they secure additional 4 credits in work based vocational courses offered during summer term or internship/Apprenticeship in addition to 9 credits from skill-based courses earned during I, II & III semester. Summer Internship could be initiated during holidays and continued to the V semester. Courses Under MD, AEC, & VAC will be finalized by the respective institution. For SEC, courses offered by MOOCs/ SWAYAM courses/ Any other approved list of 3rd party certificate courses sponsored by Industry, GOI at special apprenticeship courses designed by any polytechnic college, Govt. MSME Training centers, may also be taken.

- Students who want to undertake 3-year UG programme will be awarded UG Degree in Home Science upon securing 124 credits. Minimum of 12 credits will be allotted to the minor stream relating to vocational education and training spreading through II, III, IV & V semesters. Internship for a period of 45 days is included as the Major11 which has to undergo after IV semester.

FIRST YEAR-SEMESTER I

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-1	Major Course1	Basics of Home Science	4	5	-	-
MID-I	Minor Course1 (from Stream I)	Food Preservation Or Household Cleaning & Pest Control Or Advanced Nutrition	4	5	-	-
MLDC-I	Multi–Disciplinary Course1	Natural Sciences (Hosted in the University website)	3	4	-	-
AEC-I	Ability Enhancement Courses1	Common syllabus for all UG courses, English Language 1	3	3	-	-
SEC-I	Skill Enhancement Courses1	Food Safety and Quality Control **Or** will be taken from the MOOCs/ SWAYAM	3	-	-	4
VAC-I	Value-added Courses1&2	Environmental Studies	2	3	-	-
VAC-II		Understanding India	2	3	-	-
Total Courses/ Credits/ Hours	7 Courses	**27 hours/ week**	21	23		**4**

Note: For B.Sc. Home Science, 3 Year degree course, Minor paper (12 credits) will be opted in semester I (from Stream 1), semester II (from Stream 1) and semester III (from Stream 2) from parent department. In Semester IV, V & VI minor paper (12 credits) will be opted from other life science department

For B.Sc. Home Science Honors, 4 Year degree course, Minor paper (16 credits) will be opted in semester I (from Stream 1), semester II (from Stream 1), semester III (from Stream 2) and semester IV (from Stream 2) from parent department. In Semester IV, V, VI & VII, minor paper (16 credits) will be opted from other life science department.

FIRST YEAR-SEMESTER II

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-2	Major Course 2	Introduction to Human Development	3+1	3	1	2
MID-II	Minor Course 2 (from Stream I)	Children with Special Need Or Food Laws and Regulations Or Design Décor of Surface	4	1	1	3
MLDC-II	Multi–Disciplinary Courses 2	Physical Sciences (Hosted in the University website)	3	4	-	-
AEC-II	Ability Enhancement Courses 2	Common syllabus for all UG courses, Indian Language 1	3	3	-	-
SEC-II	Skill Enhancement Courses 2	Early Childhood Care and Education, will be taken from the MOOCs/SWAYAM	3	-	-	4
VAC-III	Value-added Courses 3&4	Digital Technologies	2	3	-	-
VAC-IV		Health, Wellness, Yoga Education, Sports & Fitness	2	3	-	-
Total Courses/ Credits/	7Courses	**26 hours/ week**	21	17	**2**	**7**

SECOND YEAR-SEMESTER III

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-3	Major Course 3	Food Ingredient	3+1	3	1	2
MJD-4	Major Course 4	Fundamentals of Textiles	3+1	2	1	3
MID-III	Minor Course 3 (from Stream II)	Family Dynamics Or Programs for Rural and Urban Development Or Tourism & Hospitality Management	4	1	1	3
MLDC-III	Multi–Disciplinary Course 3	Common syllabus for all UG courses, Humanities/ Social Sciences	3	3	-	-
AEC-III	Ability Enhancement Courses 3	Common syllabus for all UG courses. English Language 2	3	-	-	4
SEC-III	Skill Enhancement Courses 3	Apparel Designing **Or** will be taken from the MOOCs/SWAYAM	3	-	-	4
Total Courses/ Credits/Hours	6 Courses	**28 hours/ week**	23	9	**3**	**16**

SECOND YEAR-SEMESTER IV

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-5	Major Course5	Food Science	3+1	3	1	2
MJD-6	Major Course 6	Housing & Interior Decoration	3+1	3	1	2
MJD-7	Major Course 7	Human Physiology	4	5	-	-
MID-IV	Minor Course 4 (from Stream II)	Functional Foods Or Entrepreneurship Development Or Applied Art on Textiles	4	3	-	1
AEC-IV	Ability Enhancement Courses	Common syllabus for all UG courses. Indian Language 2	3	-	-	4
VAC-IV	Community Engagement and Service	Community engagement services	2	2 weeks		
Total Courses/ Credits/Hours	6 Courses	**25 hours/ week**	21	14	**2**	**9**

THIRD YEAR-SEMESTER V

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-8	Major Course 8	Dietetics for Normal Conditions	3+1	3	1	2
MJD-9	Major Course 9	Fundamentals of Human Nutrition	4	5	-	-
MJD-10	Major Course 10	Residential space planning	4	5	-	-
MJD-11	Major Course 11	For UG, Summer internship of 45 Days duration has to be considered	4	45 days (During holidays, after IVth sem and continued to Vth sem)		
MID-V	Minor Course 5 (from Stream III)	**Select from the bunch of minor courses offered by the other Department of Natural Sciences (life/Physical sciences)**	4	-	-	4
Total Courses/ Credits/Hours	5 Courses	**20 hours/ week**	20	13	**1**	**6**

THIRD YEAR-SEMESTER VI

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-12	Major Course 12	Dietetics for Therapeutic conditions	3+1	3	1	2
MJD-13	Major Course 13	Principles of resource management	4	5	1	2
MJD-14	Major Course 14	Clothing care & construction	4	5	-	-
MJD-15	Major Course 15	Communication & development	4	5	5	5
MID-VI	Minor Course 6 (from Stream III)	**Select from the bunch of minor courses offered by the other department of Natural Sciences(life/Physical sciences)**	4	-	-	4
Total Courses/ Credits/Hours	5 Courses	**25 hours/ week**	20	18	**6**	**11**

FOURTH YEAR-SEMESTER VII

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-16	Major Course 16	Child rights and gender empowerment	4	5	-	-
MJD-17	Major Course 17	Extension education and management	4	5	-	-
MJD-18	Major Course 18	Research Methodology and statistics	4	5	-	-
MID-V	Minor Course 7 (from Steam III)	**Select from the bunch of minor courses offered by the other Department of Natural Sciences(life/Physical sciences)**	4	5	-	-
MID-VI	Minor Course 8 (from Steam III)	**Select from the bunch of minor courses offered by the other Department of Natural Sciences(life/Physical sciences)**	4	5	-	-
Total Courses/ Credits/Hours	5 Courses	**28 hours/ week**	20	25	**1**	**2**

FOURTH YEAR-SEMESTER VIII

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-19	Major Course 19	Recent trends in Home Science	4	5	-	-
MJD-20	Major Course 20	Guidance and counseling	4	5	-	-
	Project work Or 3 theory papers (MJD 21, 22 & 23 in VIII Sem)		12	-	-	-
Total Courses/ Credits/Hours	2 Courses	**10 hours/ week**	20	10	-	-

(OR)

FOURTH YEAR-SEMESTER VIII

Course Code	Type of Course	Title of the Course	Credits	Hours/ Week		
				L	T	P
MJD-19	MajorCourse19	Recent trends in Home Science	4	5	-	-
MJD-20	MajorCourse20	Guidance and counseling	4	5	-	-
MJD-21	MajorCourse21	Ergonomics	4	5	-	-
MJD-22	MajorCourse22	Nutrition in emergencies and disaster management	4	5	-	-
MJD-23	Major course 23	NGOs & Corporate Social Responsibility	4	5	-	-
Total Courses/ Credits/Hours	5 Courses	**25 hours/ week**	20	25	-	-

LIST OF MAJOR COURSES (SINGLE MAJOR)

B.Sc. HOME SCIENCE

MJD 1-BHSC 101

BASICS OF HOME SCIENCE

Credits: 4 **Hours: 5**

Learning Objectives:

To enable the students to

- Understand the concept, scope, and philosophy of Home Science.
- Create awareness regarding various applied and core specializations of Home Science.
- Appreciate the role of Home Science and its multidisciplinary approach in career building.
- Appreciate the role of Home Science in Nation building.

Course Outcome:

- Develop professional skills in food, nutrition, textiles, housing and human development.
- Understand and appreciate the role of interdisciplinary sciences, the development and well-being of individuals, the families and communities.
- Acquire professional and entrepreneurial skills for economic empowerment of self in particular and community.
- Understand the science and technology that enhance the quality of life of people.
- Bringing science from laboratory to the people

UNIT-I

Basics of Home Science - Definition, meaning, branches and scope of Home Science. Philosophy of Home Science. Home Science Education at various Levels- School/College/University/Research. The Home Science Association of India: history and objectives, achievements of associations, representation in national bodies.

UNIT-II

Nutrition, Food Science and Human Development- Basics of nutrition, food groups, meal planning, dietary requirements for different age groups, and understanding the importance of a balanced diet. Human growth and development across the lifespan,

UNIT-III

Interior Design, Resource Management, Textiles and Clothing, Fabric types, their properties, care, and maintenance, basic sewing techniques, and garment construction.

Basics of interior design, space planning, colour theory, furniture arrangement, and home decor. Budgeting and resource management.

UNIT-IV

Family Studies, Consumer Education and Protection- Family: Meaning, significance of family, characteristics of family. Marriage: Meaning, functions and types of marriage. Role of Home Science in Women's empowerment. Consumer rights, responsibilities, product evaluation, and making informed consumer choices.

UNIT V

Community Nutrition and Extension- Concept, Need, Importance Contribution of Home Science Extension Education in National Development. Support service of youth in development: NCC, NSS, youth camps, youth clubs etc.

TEXTBOOKS

1· Chauhan, A. (2015) "Comprehensive Home Science X",

2· Mullick, P. "Textbook of Home Science", Kalyani Publisher

3. Devdas, Rajmal, P. (1968) Textbook of Home-Science, Farm information Unit, Directorate of Extension, Ministry of Agriculture, New Delhi.

4. Devdas Rajmal, P. The Meaning of Home Science Sri Avinashi lingam Home Science, Coimbatore (1968)

5. Prem Prabha Singh, (2024) Essentials of Home Science , Bright sky publications.

6. Dr. V. Vijaya Lakshmi(2023) Current Trends in Home Science (Volume - 1)

REFERENCES

1. Chandra A. Shah, A Jishi U." Fundamental of teaching Home Science", Sterling Publishers, Private Limited, 1989.

2. NEW AND RESTRUCTURED POST-GRADUATE CURRICULA & SYLLABI, Education Division, Indian Council of Agricultural Research, New Delhi, April 2009

3. Fundamentals of Home Science Part – I (2017) Dr.ChandrashreeLenka and

Dr.Nibedita Mishra, AkiNik Publications

4. NEW AND RESTRUCTURED POST-GRADUATE CURRICULA & SYLLABI, Education Division, Indian Council of Agricultural Research, New Delhi, April 2009

WEBLINKS

1.https://sos.cg.nic.in/EBooks/12th/English/engbook%20321%20Home%20Science/

2. Home%20Science%20-%201%20(Final%20Book).pdf

3.https://nios.ac.in/media/documents/SecHmscicour/english/Home%20Science%20(Eng)%20Ch-1.pdf

4. https://sos.cg.nic.in/E-Books/12th/English/eng-book%20321%20Home%20Science/321_Home%20Science%20-%201%20(Final%20Book).pdf

5.https://edustud.nic.in/edu/SupportMaterial202324/12/12_homescience_eng_sm_2024.pdf

MJD 2–BHSC 102

INTRODUCTION TO HUMAN DEVELOPMENT

THEORY

Credits: 3+1(Theory 3 + practical 1) **Hours: 6**

Learning Objectives:

To enable the students to

- To understand the growth and development process from conception to confinement
- To Understand the physical, cognitive, emotional and social development of the individual from infancy to adulthood
- To recognize the milestones in child rearing.

Course Outcome:

Students will be able to learn following points

- History and scope of human development
- Principles of growth & development
- Physical, cognitive, motor, social and emotional development from infancy to adulthood
- Play, Learning and habit formation during childhood.
- Personality developmentandadjustmentduringadolescenceandchangesinadulthoodandadjustments inoldage.

UNIT I

Introduction to Human Development: Definition, History, Scientific and multidisciplinary nature of Human Development in contemporary society. Stages of Human Development. Principles of growth and development.

UNIT II

Prenatal Development: Birth and the Neonate(newborn), Conception – Signs and symptoms of pregnancy, prenatal development – stages of development, factors affecting development, birth process–signs and stages of labor, post-natal care, assisted reproductive technology (IVF, GIFT, FET).

UNIT III

Infancy: Development during infancy – Physical, social, emotional, cognitive and language. Infant care and hygiene – Breast-feeding, complementary feeding,

immunization. Needs for children–Physiological and psychological. Role of child care centers.

UNIT IV

Middle childhood years' childhood/school going(6-12years)–Physical, social, emotional, intellectual, language and moral development. Habit formation.

Learning –Definition, types- Trial and error, insight, conditioning – classical and operant, implications and limitations.

UNIT V

Adolescence, adulthood and old age - Physical and psychological changes, emotional, moral and social development. Personality development and Factors influencing personality development. Physical, cognitive, social and emotional changes during adulthood and old age and adjustments in old age.

TEXTBOOKS

1.SuriakanthiA.,(1997):Child-development–Anintroduction,Kavitha Publishers.

2.RajammalP.Devadas andJayaN.Muthu(2002):AtextbookofChildDevelopment,Macmillan ,Delhi.

3.Swaminathan,M(1998)Thefirstfiveyears:Acriticalperspectiveonearlychildhoodcare and education in India. New Delhi: Sage.

4.Singh,A.(Ed.)2015.FoundationsofHumanDevelopment:Alifespanapproach.NewDelhi: OrientBlack Swan.

5.HurlockE.B.,(1972):Childdevelopment,McGrawHillBookcompany

REFERENCES

1.Nanda V.K.,(1998): Principles of Child Development, Anmol Publications Pvt. Ltd.,New Delhi.

2.Hurlock, E.B.,(1995):Developmental Psychology-A life span approach, 5th Mc GrawHill Book Co., New York.

3.Sapra, R.(2007): Integrated Approach to Human Development. Vishwabharathi. NewDelhi.

4.BerkL.E.(2004):ChildDevelopment,PearsonLongmanNew Delhi.

5.Santrock,J.W.(2006):ChildDevelopment,NewYork:McGraw-Hill.

WEBLINKS

https://www.mooc-list.com/tags/human-development

https://online.maryville.edu/online-bachelors-degrees/human-development-and-family-studies/resources/stages-of-human-development/

https://www.my-mooc.com/en/mooc/learning-knowledge-and-human-development

BHSC 102 PRACTICAL

INTRODUCTION TO HUMAN DEVELOPMENT

Credits: 1 **Hours :2**

1. Observation of children in a Primary school
2. Observations in the following areas of development – physical, social, emotional and language development of primary school children (6 – 8 years)
3. Study on play interest of children and types of play materials available in a preschool.
4. Study on behavior problems of children
5. Sociometric study of adolescents.

Related Experience - Visit to Center for special children.

TEXTBOOKS

1. Suriakanthi A., (1997): Child-development–An introduction, Kavitha Publishers.

2.Rajammal P. Devadas and Jaya N. Muthu (2002):A textbook of Child Development, Macmillan ,Delhi.

3.Swaminathan, M(1998)The first five years: A critical perspective on early childhood care and education in India. New Delhi: Sage.

4.Singh, A.(Ed.) 2015. Foundations of Human Development:A lifespan approach. New Delhi: Orient Black Swan.

5. Hurlock E.B., (1972):Child development, McGraw Hill Book company.

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1. Nanda V.K.,(1998): Principles of Child Development, Anmol Publications Pvt. Ltd., New Delhi.
2. Hurlock, E.B.,(1995):Developmental Psychology-A life span approach, 5th Mc Graw Hill Book Co., New York.
3. Sapra, R.(2007): Integrated Approach to Human Development. Vishwa bharathi. New Delhi.
4. BerkL. E.(2004): Child Development, Pearson Longman New Delhi.
5. Santrock, J.W.(2006):Child Development, New York: McGraw-Hill.

WEBLINKS

https://online.maryville.edu/online-bachelors-degrees/human-development-and-family- studies/resources/stages-of-human-development/

MJD 03–BHSC 201
FOOD INGREDIENTS
THEORY

Credits:3+1(Theory3 + practical1) **Hour:6**

Learning Objectives:

- To enable the students to obtain knowledge of different food groups, their composition and nutrients present.
- To acquire knowledge on appropriate cooking methods for nutrient conservation and their role in diet with respect to ingredients with longer shelf life and are non -perishables.

Course Outcome: Students will be:

a) Able to analyze food ingredients with their composition, processing and nutritional values

b) Able to critically analyze and evaluate food ingredients scientifically and hence can be able to implementing food processing and technology

UNIT I

Meaning, definition & functions of food. Food groups – Basic Five, classification of foods. Asian food pyramid. Objectives of cooking, preliminary preparations, advantages and disadvantages of cooking, cooking methods—moist and dry heat method, combination method, their advantages and disadvantages. Microwave& solar cooking.

UNIT II

Cereals: Structure, composition, nutritive value, processing and effects of processing of rice, wheat & ragi. Gluten formation, gelatinization, dextrinization and factors affecting it. Cereal cookery-fermented and unfermented products of cereals, millets, breakfast cereals.

UNIT III

Pulses: Nutritive value, processing and effects of processing, toxic constituents of pulses. Highlighting soybeans. Nutritional implication of germination. Nuts and oilseeds – nutritive value of commonly used nuts (Groundnut, cashew nut, almond) processing of oilseeds (groundnut, sesame).

UNIT IV

Fats and oils: Types and nutritive value, processing, changes during storage. Meaning

of hydrogenation, rancidity, smoking point, emulsification. Role of fat/oil in cookery.

UNIT V

Spices and Condiments: Types, uses in Indian cookery.

Sugar: Properties, artificial sweeteners. Sugar cookery.

BHSC 201- FOOD INGREDIENTS (PRACTICAL)

Credits: 1 **Hours: 2**

NON-PERISHABLE INGREDIENTS

1. Familiarization with different kitchen gadgets.
2. Methods of measuring dry ingredients and liquids.
3. Cereal cookery

   a. Methods of combining flour with liquid eg. Powdered cereal coarse (eg. Phirnee, broken wheat uppuma) and fine (eg. Ragi porridge, wheat halwa).

   a. Cereal Grains: different methods of cooking rice – straining, absorption –cooking over slow heat, pressure cooking, addition of fat, microwave and electric rice cooker.

   b. Recipes with rice.
4. Pulse Cookery

   a. Different methods of cooking pulses –hard water, soft water, soaking, addition of soda bicarbonate, addition of raw papaya, pressure cooking on any whole gram dal.

   b. Recipes with pulses.

RELATED EXPERIENCE:

Visit to any regional food processing industry

TEXTBOOKS

1.Manay N.S., and Shadak sharaswamy, M (2001): Foods, facts and principles, New Age International Pvt.Ltd., publishers, New Delhi.

2.MudambS.Rand Rajagopal V.M Fundamentals of Foods and Nutrition, Wiley Eastern Ltd. New Delhi.

3. Srilakshmi B, (2005): Food Science, New Age International Publishers, New Delhi.

4.Usha Chandrasekhar, Food Science and Application in Indian Cookery, Phoenix Publishing House Pvt.Ltd., NewDelhi,2002.

5. Principles Of Food Science & Nutrition (2023) Dr. Radhika Awasthi, Dr.Sulakshana Mane, Dr. Prem Ram, Dr.Parvinder Kaur. AG Publishing House

REFERENCES

1. Belitz H.D(2005): Food Chemistry, Springer Veriag.

2. Potter, N.and Hot chikiss, J.H. (1996): Food Science, Fifth edition, CBS.

3.Van Garde.J&Woodbush M. (1999): Food Preservation-Safety,

4.Principle sand Practice, Surabhi Publications, Jaipur.

5. SoodS and Khetar PaulN. (2002), Food Preservation, Agro tech Pub.Co., Udaipur.

WEBLINK

1.https://mitsmegafoodpark.com/mobile/documents/project_report/pulse.pdf

2. http://www.jnkvv.org/PDF/05042020135315spices.pdf

MJD 03-BHSC 202

FUNDAMENTALS OF TEXTILES

Credits:3+1(Theory3 + practical 1) Hour:6

Learning Outcomes:

To enable the students to

- Acquainted with the different textiles and their performances.
- Impart knowledge on different textile finishes.
- To acquaint with proper notion regarding choice of fabric
- Gain the knowledge of equipment's used in clothing construction
- To develop skills in clothing construction.

Course Outcomes:

- Understand the classification and properties of textiles fibre.
- Develop professional skills in textiles
- Acquire the knowledge of weaving and its types
- Identify the finishes used in fabric preparation
- Acquire professional skill in drafting and clothing construction

UNIT I -Introduction to Textile Fibres

Meaning and classification of fibres, Production, properties and usage of fibres Natural fibre: cotton, flax, silk and wool Man-made fibers :Rayon (Viscose),Polyester and Nylon.

UNIT II Yarn construction and their properties

Yarn formation, Mechanical spinning (cotton system, wool system, worsted system) chemical spinning (wet, dry, melt), Types of yarns: Staple and filament, simple yarn, complex yarns

UNIT III Fabric construction

Weaving: Parts and functions of the loom, Weaves: Classification of weaves (Plain, Basket, Ribbed, Twill, Satin, Sateen)-Structure, Properties, usages.

UNIT IV-Dyeing and Printing

Classification of dyes, Natural and chemical dyes. Methods of dyeing, emphasis on stock, yarn, and piece dyeing. Methods of Printing: Block, Roller, Screen, Resist, Discharge printing.

UNIT V Finishing

Basic finishes- Singeing, Desizing, Scouring, Bleaching, Stiffening, Degumming.

Special Finishes: Mechanical Finishes- Calendaring, Sanforizing, Embossing, Napping, flocking.

Chemical Finishes- Water repellency, Wrinkle resistance, Antistatic agents, carbonising, Anti- Soil Finish.

TEXTBOOKS

1. Textile Fabrics and Their Selection: Wingate.
2. Textiles: Hollwn and Saddler.
3. Textile Fiber and their use: Katharine PaddoekHess.
4. Fibre structure . Mishra, Siba Prasad, WPI Publishing, 2017
5. Introduction to Textile Fibres by H. V. Sreenivasa Murthy, WPI Publishing 2015
6. Wynne, A. Textiles. London: Macmillan Education Ltd. (1997).
7. A practical approach to understand fabrics Tholia, A., Sarv Publication. (2013)
8. Textile Science. India Rastogi, D. & Chopra, S.: Orient Blackswan Private Limited . (2017)
9. Text Book of Fabric Science. Sekhri, S.. New Delhi: PHI Learning Private Limited. (2011)

REFERENCES

1. Art of Sewing: Anna Jacob.
2. Manual for Children Clothing: Savitri Pandit
3. Schindler, W. D.; Hauser, P. J. (2004-08-10). Chemical Finishing of Textiles. Elsevier. pp. 1–20. ISBN 978-1-84569-037-3.
4. Choudhury, Asim Kumar Roy (2017-04-29). Principles of Textile Finishing. Woodhead Publishing. pp. 1–10. ISBN 978-0-08-100661-0.
5. *Williams, John T. (2017-11-21).* Waterproof and Water Repellent Textiles and Clothing*. Woodhead Publishing. p. 165. ISBN 978-0-08-101134-8.*
6. Creating 'greener' wrinkle-resistant cotton fabric". American Chemical Society. Retrieved 2021-07-24.

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1. https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-24.pdf
2. https://www2.cs.arizona.edu/patterns/weaving/books/lds_fof_05.pdf
3. https://www.egyankosh.ac.in/bitstream/123456789/61757/3/Unit-2.pdf
4. https://nptel.ac.in/courses/116102026
5. https://textilelearner.net/textile-finishing-process/

MJD 04–BHSC 202 Practical

FUNDAMENTALS OF TEXTILES

Credits: 1 **Hours: 2**

Objectives

To enable the students to:

Get a basic idea of clothing care & selection

Develop skills in apparel designing and construction

Understand about Machine parts and its functions

1. Clothing Construction (a) Tools for Clothing construction
2. Introduction to sewing machine, its parts
3. Maintenance of sewing machine and sewing tools.
4. Learning to Stitch- (a) Knowing how to stitch straight-line stitching, stitching at curves and corners
5. Basic Stitching-Temporary Stitching, Permanent and decorative stitching

TEXTBOOK / REFERENCES

1. Thangam Subramanian, Dress making, Tailoring and Embroidery College, Ambattur, Chennai
2. Dantyagi., (1996): Fundamentals of Textiles and their care. Orient Longman Limited, New Delhi
3. Mary Mattews, (1974): Practical Clothing Construction, Part I and Part II, Thompson and Co. Pvt. Ltd., Chennai
4. Agarwal.M., (2005): Home Science & Textiles, ABD Publishers, Jaipur.
5. Yadav. S, (1997): Textbook of Textile & Laundry, Anmol Publications, Pvt Ltd, N. Delhi.

MJD 5–BHSC 203

FOOD SCIENCE

Credits:3+1 (Theory-3, Practical- 1) **Hours: 6**

Learning Objectives

1. To enable the students to obtain knowledge of different food groups heir composition and nutrients present in it.
2.To make the students to learn appropriate preparation and cooking methods for nutrient conservation

3.To acquire knowledge about the role of different foods in diet with respect to food ingredients with lesser shelf life andare perishable

Course Outcomes

1. Student will be able to analyze food ingredients with their composition, processing and nutritional values
2. Student will critically analyze and evaluate food ingredients scientifically and hence can be able to implement in food processing and technology

UNIT-I

Milk: Composition, properties, nutritive value and processing of milk. Effect of heat, acid,

enzymes and salt on milk. Milk products–fermented and unfermented. Milk cookery.

UNIT-II

Meat: Structure, Composition and nutritive value. Post–modern changes, ageing, tenderizing and curing of meat. Meat cookery–changes during cooking.

Poultry: Classification, composition and nutritive value. Eggs–structure, composition, nutritive value. Evaluation of quality. Egg cookery. Fish: Classification, composition, nutritive value, Selection, factors affecting spoilage, Fish cookery.

UNIT-III

Vegetables & Fruits: Classification, selection, Composition, Pigments, Enzymes, Flavor compounds, Nutritive value. Effect of cooking on color, texture, flavor, appearance and nutritive value. Storage of vegetables. Role of mushroom, spirulina in diet as alternative

source with algae and fungi base.

Fruits: Classification, selection, pigments, enzymes and nutritive value, post-harvest

changes and storage. Browning reaction –enzymatic and non-enzymatic.

UNIT-IV

Different types of food additives and their uses. Food adulteration. Principles and signification of Food Technology, Fortification and Enrichment, HACCP.

UNIT-V

Organic foods: Organic farming, its advantages and limitations, certification. Genetically modified foods: Meaning and process of GM foods in brief. Advantages and limitations of GM foods.

BHSC 203 PRACTICAL
FOOD SCIENCE

Credits: 1 **Hours: 2**

PERISHABLE INGREDIENTS

1.Milk cookery: Experimental milk cookery. Preparation of selected common recipes.

2.Egg cookery: Experimental cookery on eggs-boiled eggs, poached eggs, Omelettes and custards. Preparation of selected common recipes.

3.Vegetables Cookery

Different methods of cooking vegetables – effect of shredding, dicing, acid and alkali, pressure cooking, steaming with and without lid. Eg. Potato, beetroot, carrot and greens. Recipes with Vegetables

4. Fruits: Prevention of browning on fruits. Preparation of selected common recipes.

5. Market survey on food additives and fortified food.

TEXTBOOKS

1. Manay N.S., and Shadak sharaswamy, M (2001): Foods, facts and principles, New Age International Pvt. Ltd., publishers, New Delhi.
2. Mudambi S.R and Raja gopal V.M: Fundamentals of Foods and Nutrition, Wiley Eastern Ltd., New Delhi.
3. Srilakshmi B, (2005): Food Science, New Age International Publishers, New Delhi.
4. Usha Chandrasekhar, Food Science and Application in Indian Cookery, Phoenix Publishing House Pvt.Ltd., NewDelhi,2002.
5. SrilakshmiB,(2026):FoodScience,NewAgeInternationalPublishers,NewDelhi.

REFERENCES

1. Belitz H.D(2005): Food Chemistry, S pringer Veriag.
2. Potter, N.and Hotchikiss, J.H. (1996): Food Science, Fifth edition, CBS.
3. Van Garde.J & Wood bush M. (1999): Food Preservation-Safety, Principles and Practice, Surabhi Publications, Jaipur.
4. SoodS and Khetar Paul N. (2002), Food Preservation, Agro tech Pub.Co., Udaipur.

WEBLINKS

1. file:///C:/Users/Admin/Downloads/MilkandDifferentTypesofMilkProducts.pdf
2. https://ucanr.edu/datastoreFiles/608-781.pdf

MJD 6–BHSC204

HOUSING AND INTERIOR DECORATION

THEORY

Credits:3+1 **Hours:6**

Learning Objectives:

1. The values and goals in housing.
2. The principles of house maintenance that promote health and comfort of the family.
3. The fundamental principles of interior design

Course Outcome:

Students will be able to:

1. Remember and explaining a systematic way the difference between interior design and decoration
2. Understand and use the elements and principles to create beautiful designs & interiors
3. Critically explain the nuances of Indian interior design work in prescribed areas under co-curricular activity
4. Application of the principles and elements in creating beautiful landscape

UNIT-I

Design: Types, elements of design–line and direction, shape and form, size, color, texture, space. Principles of design–harmony, proportion, balance, rhythm and emphasis –meaning, types and its application.

UNIT-II

Colour: Definition, dimensions of color, prang color system. Munsel color System. Colour harmonies, developing color schemes for different rooms, principles of design in color. Colour and emotional effect.

UNIT-III

Furniture: Selection and arrangement in various rooms. Furnishing – factors considered in selection of furnishing materials, floor coverings, curtains and draperies, window treatments. Accessories– definition, classification and use.

UNIT-IV

Flower arrangement: Importance, Materials used, types, steps in making flower arrangement. Lighting: Importance, measurements, types and lighting requirements for various activities and rooms.

UNIT-V

Housing: Importance of housing, functions of a house, site selection and principles of designing living space. Types of house plans for various income groups. Kitchen: Various areas of kitchen, types of kitchen. Table setting–laying the table, general rules for table setting, western styles, buffet style and Indian style.

BHSC 204 PRACTICAL

HOUSING AND INTERIOR DECORATION

Credit:1

Hours:2

1. Evaluation of design.
2. Preparation of colour chart and various colour schemes.
3. Application of design principles in preparation of greeting card, poster and a wall-hanging
4. Application of design principles in Flower arrangement
5. Application of design principles in Window treatment
6. Drawing floor plans for different income groups.
7. Furniture arrangement in different rooms by means of paper cut out.
8. Table Setting – Indian, Western styles.
9. Drawing various types of kitchen plans and Visiting furnishing shops or Hotels or Handicrafts

TEXTBOOKS

1. Faulkner & Faulkner"Inside Today's Home"
2. Gold stein &Gold stein"Art in Everyday Life"
3. Premavathy Seetharaman & Parveen Pannu "Interior Design & Decoration
4. MacEvoy, Bruce. "Color Theory". *Handprint*. Retrieved 8 February 2024.
5. Seetharaman.P.,Paannu.P (2009) , Interior Design and Decoration, CBS Publishers and Distributers Pvt Limited., Chennai India.
6. Gandotra.V, Shukul.M, and Jaiswal.N, (2011) Introduction to Interior Design and Decoration, Dominant Publishers and Distributors New Delhi.
7. Kasu,A.A,(2005), "Interior Design", Delhi; Asha Book Center. India.

REFERENCES

1. Interior design and décor, Seetharaman
2. FundmentalsofLighting.Originallypublished:October2007.Author:SusanM. Winchip
3. The Fashion Design Manual, Pamela Sketcher, Chapter- 6, The Principles of Design
4. Nielson, K. J., & Taylor, D. A. (2002). Interiors: An Introduction. New York: McGraw-Hill Companies, Inc. ISBN 978-0-07-296520-9
5. .Pile, J.F. (1995; fourth edition, 2007). Interior Design. New York: Harry N. Abrams, Inc. ISBN 978-0-13-232103-7

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1. https://gyansanchay.csjmu.ac.in/wp-content/uploads/2022/11/FLOWER-ARRANGEMENT-.pdf
2. https://www.oca.ac.uk/wp-content/uploads/2020/06/Interior-Design-Basics-red.pdf

MJD 7–BHSC 206

HUMAN PHYSIOLOGY

Credits:4 **Hours: 5**

Learning Objectives:

- Understand the structure and functions of various organs of the body
- Highlight the influence of improper functioning of the organ system and disease

UNIT-1:

Cell: structure, function. Tissue- structure and function of epithelial, connective, muscular and nervous tissue. Water and electrolyte balance.

Digestive system structure of digestive tract and Process of digestion and absorption. Role of hormones in digestion, movement of small intestine, liver and its function.

UNIT-II

Blood and circulatory System(a)Composition of blood and function- WBC, RBC, Platelets, blood groups, coagulation of blood, blood volume. Rh factor(b)Heart– Structure, and functions, blood vessels, ECG, cardiac cycle. blood pressure - factors affecting blood pressure.

UNIT-III

Excretory system a) Structure of kidney and its functions b) Structure of nephron and its functions, formation of urine) c) Composition of urine and micturition.

Respiratory system a) Structure of Respiratory system b) Mechanism of respiration c) Exchange of gases d) chloride shift e) respiratory volume

Skin: structure and functions, regulation of body temperature.

UNIT -IV

Endocrine and Reproductive system: Endocrine system structure and functions of pituitary, thyroid, parathyroid, adrenal, islets of Langerhans and sex glands.

Reproductive system: general anatomy of female and male reproductive organ. Physiology of menstruation and fertilization. Physiology of lactation.

UNIT- V

Nervous system and special senses: nervous system structure and functions of Brain and Spinal cord.

Special Senses: Structure of eye and ear. Organs of taste and smell.

TEXTBOOKS

1. Ross and Wilson (2011), Anatomy and physiology in Health and Illness,11th Edition, Church Hill Livingstone.
2. West, J.B. (2007), Be stand Taylor's Physiological Basis of Medical Practice, 11thEdition.
3. Ross and Wilson (Reprint 2022),Anatomy and physiology in Health and Illness,14thEdition, Church Hill Livingstone.
4. West,J.B.(2007), Best and Taylor's Physiological Basis of Medical Practice, *Edition*: 13. Reprint 2011.

REFERENCES

1. Ranganathan. T.S. (2004): A textbook of Human Anatomy, Chand & co. N. Delhi.

2. Jain.A.K. Textbook of physiology, vol. I & vol. II, Avichal publishing co., New Delhi.

3. Chatterjee C.C(2016), Human Physiology Volume I, Medical Allied Agency, Kolkata.

4.Gyton (1996), Test Book of Medical Physiology, 9th Edition, Prism Books Pvt.Ltd., W.B. Sanders Company, USA.

WEBLINK

https://onlinecourses.nptel.ac.in/noc24_bt05/preview

https://www.mooc-list.com/tags/physiology

MJD 8–BHSC 207

DIETETICS FOR NORMAL CONDITION

THEORY

Credits:3+1 (Theory 3 + Practical 1) **Hours: 6**

Learning Objectives:

To enable the students to:

- Understand the Physiological basis for Nutrition
- Get familiarized with the basic concepts and gain experience in Planning and Preparation of meals for various age group at different income level and conditions based on their nutritional needs.
- Get exposed to responsibilities of a dietician

Course Outcome:

- Practically gain knowledge to plan diet for each stage of life according to the guidelines for dietary needs
- Gain knowledge on changes during various stages of growth and development throughout lifecycle

UNIT-I

Basic principles of menu and meal planning. Factors to be considered in menu planning. Reference Man and Reference Woman. Recommended Dietary Allowances (2020). Adulthood–Classification of activities, food and nutritional requirements(ICMR), dietary guidelines, diet plan. Nutrition related problems–Anemia, obesity.

UNIT-II

Pregnancy: Physiological stages of pregnancy, food and nutritional requirements (ICMR), dietary guidelines, diet plan, complications of pregnancy (in brief)-gestational diabetes, hyperemesis gravidarum, pregnancy induced Hypertension (PIH), toxemia. Physiological cost of pregnancy.

Lactation: Physiology of lactation, food and nutritional requirements (ICMR), dietary guidelines, significance of Galactogogues, diet plan, problems during lactation.

UNIT-III

Infancy: Growth and development, food and nutritional requirements(ICMR). Breastfeeding, artificial feeding, infant formula, supplementary foods, weaning. Feeding problems. Nutritional requirements for preterm.

Pre-schoolers – Growth and development, food and nutritional requirements (ICMR), dietary guidelines, diet plan. Nutrition related problems –Protein Energy Malnutrition, Vitamin A deficiency. School children – Growth and development, food and nutritional requirements, dietary guidelines, diet plan, importance of snacks, packed lunch. Nutrition related problems–underweight, overweight, obesity.

UNIT-IV

Adolescence: Growth and development, food and nutritional requirements (ICMR), dietary guidelines, diet plan. Food choices–Eating habits and the influencing factors. Eating disorders of Adolescents-Anorexia, Bulimia. Geriatric nutrition:Food and nutritional requirements(ICMR), dietary guidelines, diet plan, nutritional related problems-osteoporosis,osteomalacia,constipation..Factors affecting food intake, nutritional supplementation.

UNIT-V

Dietician: Classification, responsibilities, code of ethics. Nutritional care process, medical history assessment, assessment of patient needs. Dietary counselling: Different methods, handling he patient and the patient's family during counselling, principles of family counselling, evaluation of the effectiveness of counselling, education of the patient and follow-up.

Indian Dietetic Association: Evolution in India, and its functions.

BHSC 207 PRACTICAL

DIETETICS FOR NORMAL CONDITION

Credits: 1 **Hours: 2**

1. Planning and preparation of diet of adult men and women for different activities sedentary, moderate, heavy worker and income groups.
2. Planningandpreparationofdietforapregnantwomanfordifferentincomegroupsanddiffer entactivitylevels.
3. Planning and preparation of diet for a nursing mother for different income groups and different activity levels.
4. Planning and preparation of diet for a school going child, packed lunch for different income groups.
5. Planning and preparation of diet for an adolescent for different income groups.
6. Planning and preparation of diet for the aged from different income groups and different activity levels.

TEXTBOOKS

1. Corinne, Robinson (2010), "Normal and Therapeutic nutrition", Oxford and IBH publishing company, Bombay.
2. B. Srilakshmi (2012), "Dietetics",4th edition, New age international Publisher, Chennai.
3. B. Srilakshmi (2023), "Dietetics",4th edition, New age international Publisher, Chennai.

REFERENCES

1. Gopalan, C., Balasubramanian, (2012), "Nutritive value of Indian foods", NIN, ICMR, Delhi
2. Nutrition and Dietetics, Shubhangini A Joshi, McGraw Hill Edition:5thEdition, 2023

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1.https://www.diva-portal.org/smash/get/diva2:902175/FULLTEXT01.pdf

2. https://www.diva-portal.org/smash/get/diva2:902175/FULLTEXT01.pdf

3.https://www.nin.res.in/downloads/DietaryGuidelinesforNINwebsite.pdf

MJD 9–BHSC 208

FUNDAMENTALS OF HUMAN NUTRITION

Credits:4 **Hours:5**

Learning Objectives:

To enable the students to:

Obtain a better understanding of the principles of nutrition through the study of physiology Gain basic knowledge of different nutrients and their role in human health. Understand the sign and symptoms, toxicity of various nutrients

UNIT-I

Energy: definition, energy units, Physiological energy value of foods.

BMR: definition, determination, factors affecting BMR. Physical Activity level

Carbohydrates: definition, nutritional classification, functions, requirements and sources, regulations of blood sugar level. Dietary fibre: definition, classification, sources, role of fibre in preventing disease.

UNIT-II

Protein: definition, composition, nutritional classification of protein and amino acid, functions of protein and amino acid, sources and requirements, deficiencies

UNIT-III

Lipids: definition, composition, nutritional classification, function, source and requirement; essential fatty acid- definition, function, sources and effects of deficiencies.

UNIT IV

Minerals: classification and general functions.

Macro- minerals: calcium, phosphorous, magnesium, sodium and potassium- function requirement, sources, effect of deficiencies, effect of imbalance of sodium and potassium.

Micro- minerals: Iron, Iodine and zinc- functions, requirements, sources, effect of deficiencies.

UNIT V

Vitamins – classification, deficiency and general function.

Fat soluble vitamins- vitamin A, D, E and K- functions, requirement, sources and effect of deficiencies.

Water- soluble vitamins: thiamine, riboflavin, niacin, ascorbic acid, folic acid, vitamin B6, and B12- functions, requirement, sources and effect of deficiencies.

TEXTBOOKS:

1. Swaminathan, M., Essential of food and nutrition, vol. I & vol. II, BAPPCO publishers, Madras 2000.

2. Srilakshmi.B., Nutrition Science, New age international pvt. Ltd., publishers, 2004

REFERENCES:

1. Francis sizer and Ellie Whitney, Nutrition concepts and controversies, Thomson wads worth publisher, New York, 2006.

2. Mangalekango, Normal Nutrition, Curing Diseases through Diet, CBS publication, First edition, 2005.

3. Bonnie, Worthington – Roberts and Sue Rodwell Williams, Nutrition throughout the lifecycle, 3rd edition, WCB/MC Graw Hill Publisher, New York, 1996.

4. Paul. S., Text of Bio Nutrition Fundamental and Management, RBSA Publishers, 2003.

WEBLINKS:

1. http://www.ncbi.nlm.nih.gov/books/NBK591031/
2. http://ebooks.inflibnet.ac.in/antp06/chapter/energy-values-of-foods/
3. http://www.fao.org/4/ab470e06.html

MJD 10-BHSC 303

RESIDENTIAL SPACE PLANNING

THEORY

Credits:3+1 (Theory 3, Practical 1) **Hours:6**

Learning Objectives:

- To learn the space concept inside home and utilization of given space effectively
- To know about the functions and security given by house
- To basic ideas about house construction

Course Outcome:

- Develop skill in drawing house plan for different income groups.
- Acquire knowledge in recent building Materials.

UNIT I

Space for living–Concept of space, factors influencing living space, Location and Orientation, Planning objectives-utility, economy, beauty and character. Need for space, space occupancy. Merits and demerits of owned and rented house.

UNIT II

Significance of housing–functions of house, selection of site, Types of house plans-site plan, floor plan, elevation, cross–section, perspective view. Satisfaction in individual houses, multi –storied flats, row houses, one room apartments.

UNIT III

Division of space – private, public, work and traffic – definition, utility, determinants. Utility space–laundry facilities.

UNIT IV

Principles of House plan– Aspect, orientation, prospect, privacy, grouping, roominess, flexibility, circulation, furniture requirements, sanitation, practical considerations.

UNIT V

Methods of construction - Types of construction – meaning, basic knowledge in types of construction –loadbearing and non-loadbearing or framed structure. Cast in Site and Pre fabrication–advantages and limitations.

TEXTBOOKS

- Nielson, Karla and David Taylor, Interiors: an introduction, 2nd edition. Brown (William C.) Co ,U.S.; 2nd Revised edition 1993
- D. H. Jacques. The Fundamentals of House Building, Read Books Publishers, 2011
- Maureen Mitton (Author), Courtney Nystuen, Residential Interior Design: A Guide to Planning Spaces, RHUBK Publishers, 2016
- Mark Karlen , Rob Fleming , Space Planning Basics Wiley Publishers, 2016

REFERENCES

- Arora.S.P,BindraS.P, 2015, The Text Book of Building Construction, DhanpatRai Publications, New Delhi.
- Prabhakar, L.V. 1998, Vasthu – The User's Manual, The Avenue Press, Chennai.
- Despande, R.S,1974, Build your Own Home, United Book Corporation, Poona
- 5. Faulkner.S and Faulkner.R, 1987, Inside Today's Home, Rinchart Publishing
- Company, New York
- Riggs, R,1992, Materials and Components of Interior Design, Prentice Hall of India, New Delhi

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https://ebooks.inflibnet.ac.in/hsp01/chapter/space-planning/

https://khannapublishers.in/system/storage/download/Chapter_1_Construction_and_Foundation_Engg_J_Jha_SK_Sinha.pdf.M3bRVfzpL0MUsh280iw1OFTcHIt2s8Fa

https://www.wbdg.org/FFC/VA/VADEGUID/dg_small_house_model.pdf

https://www.studysmarter.co.uk/explanations/architecture/interior-design-in-architecture/residential-planning/

MJD 11 – BHSC 304

SUMMER INTERNSHIP

Credit 4 **Duration 45 days**

Note: It has to undergo after IV semester and to be completed before start of V semester

MJD 12–BHSC 305

DIETETICS FOR THERAPEUTIC CONDITIONS

Credits:3+1 (Theory 3 Practical 1) **Hours:6**

THEORY

Learning Objectives:

1. To enable the students to
2. Acquire knowledge on the clinical, biochemical changes and dietary management of various disease
3. Gain knowledge in planning and preparation of Therapeutic diets.

Course Outcome:

- Students will be able to Manage to make appropriate dietary modification for various disease conditions, skills and attributes required to meet entry level competency required for a dietician

UNIT-I

Therapeutic adaptation of normal diets, principles and classification of therapeutic diets. Meaning and importance of functional foods and food exchange list

Routine hospital diets: Regular diet, light diet, soft diet, fluid diet. Enteral feeding– naso-gastric, naso-jejunum, parenteral feeding-central and peripheral; elemental diet.

Modification of diet and during surgical conditions-pre- operative and post-operative conditions.

UNIT -II

Cardiovascular diseases: Athrosclerosis, hypertension, hypercholesterolemia hypertriglyceridemia–Prevalence, pathology, risk factors. Nutrient requirements, modifications of diet and planning menus–high fiber, low fat, sodium restricted diet.

UNIT-III

Gastro-Intestinal tract diseases: Etiology, symptoms and diet treatment for Diarrhoea and constipation gastritis, peptic ulcer and ulcerative colitis Malabsorption Syndrome: Meaning, types, symptoms and diet treatment for celiac sprue and steatorrhea Liver and gall bladder disease: Etiology, symptoms and diet treatment for jaundice, cirrhosis and hepatitis, Classification, etiology, symptoms, metabolic changes and diet treatment for diabetes mellitus.Use of Glycemic Index.

UNIT-IV

Diseases of the kidney: Etiology, symptoms and diet treatment for acute and chronic glomerulo nephritis. Nephrotric Syndrome: Etiology, symptoms and diet treatment for uremia. Nephrolithiasisandurolithiasis.

UNIT-V

Etiology, symptoms and diet treatment for febrile condition- typhoid, tuberculosis and covid, Burns-Complications and dietary treatment. Risk factors, nutrient requirements, modifications of diet and planning menus in Cancer and AIDS.

TEXTBOOKS

1. Shubangini A Joshi,(1998):Nutrition and Dietetics, Tata McGraw Hill Pub .Co. Ltd. ,New Delhi.
2. Shubangini A Joshi, (2015): Nutrition and Dietetics, Tata Mc Graw Hill Pub. Co. Ltd., New Delhi.

   Srilakshmi. B,(2005): Dietetics, V Edition, New Age International(P) Ltd, Publishers, Chennai.
3. National Institute of Nutrition, (2011): Dietary Guidelines for Indians–A Manual ,Hyderabad.
4. Antia F.P, Clinical Dietetics and Nutrition, Oxford University Press.
5. Srilakshmi. B, Dietetics (2023), 9th Edition, New Age International(P) Ltd, Publishers, New Delhi.
6. Agarwal, A & Udipi, S. (2014). Textbooks of Human Nutrition- Jaypee Medical Publication Delhi.
7. T.K. Indrani, Manual of Nutrition & Therapeutic Diet, 2nd edition/ Reprint (2025)
8. Robinson. Basic Nutrition and Diet Therapy (8th edition)

REFERENCES

1. Mahan ,L .K .and Escott- Stump, S. (2000) Krause‟s Food ,Nutrition and Diet Therapy, 10thEd.W.B.Saunders Company, London.
2. Williams S.R.(1993):Nutrition and Diet Therapy,7th Ed .Times Mirror/Mosby College Publishing, St.Louis.
3. Shills, M.E, Oslon,J.A, Shike, MandRoss, A.C.(1999): Modern Nutrition in Health and Diseases, 9th Edition.
4. Raguvanshi, R.S. and Mittal, M. (2014). Food Nutrition and Diet Therapy. Westvills Publication Delhi

5. Mahan L.K., Escott-stump, S, and Raymond J.L. (2021): "Krause's Food and the Nutrition care process", 13th edition Elsevier
6. Garrow, J.S., James, W.p.T. and Ralph, A (2000), Human Nutrition & Dietetics. 10th edition, Churchill Livingstone.
7. A. Catharine Ross, (2013) Modern Nutrition in Health and Disease Hardcover , Lippincott Williams and Wilkins

WEBLINKS

1.https://www.scribd.com/document/489661242/week-12

2. http;//www.slideshare.net/sliodeshow/fnd603-therapeutic modification-of-the-normal-diet-1-pptx/273132367.

3. http://www.drugs.com/article/gastrointestinal-disorders.html

4. **https://ncahp.abdm.gov.in/Curriculum/Nutrition%20and%20Dietetics.pdf**

5.**https://ugcmoocs.inflibnet.ac.in/assets/uploads/1/264/8393/et/Principles%20and%20classification%20of%20therapeutic%20diets200415101004040909.pdf**

BHSC 305 PRACTICAL

DIETETICS FOR THERAPEUTIC CONDITIONS

Credit: 1 **Hours: 2**

1. Planning and preparation diets for cardiovascular diseases–Atherosclerosis and hypertension
2. Planning and preparation diets for Gastro-intestinal diseases–Pepticulcer and constipation
3. Planning and preparation diets for Liver diseases–jaundice and cirrhosis
4. Planning and preparation diets for Diabetes mellitus.
5. Planning and preparing diets for Kidney diseases–nephritis and nephrosis
6. Planning and preparing diets for Typhoid Fever.

RELATED EXPERIENCE

1.Visitto a dietary department of a secondary or tertiary care hospital.

MJD 13–BHSC 306

PRINCIPLES OF RESOURCE MANAGEMENT

Credits:4 **Hours:5**

Learning Objectives:

To enable the students to

- To create on awareness among the students about management in the family as well as the other system.
- To recognize the importance of wise use of resources in order to achieve goals.
- To understand the family has needs and factors affecting selection and purchases for the family.

Course Outcome:

Adopt efficient homemaking skills with good managerial potentials Practice values, identify goals and set standards in day-to-day living Handle all situations in the family and apply decision making skills

UNIT I

Micro and Macro Environment: Meaning and definition of home management. Management process–Planning, controlling and evaluation, factors influencing home management. Qualities of a good manager.

UNIT II

Values, goals, standards in relation to the management process. Decision making: Process of decision making, types of decisions, methods of resolving conflicts,

UNIT–III

Family Resources Types – Resources – Definition, meaning, classification of resources. Human and Non-Human Resources. Wants-Types, Characteristics and factors affecting wants.

UNIT IV

Time – Time plan, steps in making time plans, tools in time management, time norm, work unit/work load, peak load, work curves, rest periods, time schedules. Time management process –planning, controlling and evaluating.

Energy: Energy requirements for household activities, planning, controlling and evaluating energy management

Work simplification: Definition, importance, techniques–process chart, operation chart, Mundel‟s classes of changes. Concept of fatigue, types of fatigue, avoidance of fatigue.

UNIT V

Money: Definition of family income, types, family budget –definition, importance, types, steps in making budget, factors affecting the budget, advantages of budgeting. Account keeping: importance, types of account systems, methods of handling money, family financial records.

RELATED EXPERIENCE

1. Preparation of personal expenditure record for one month
2. Preparation of personal expenditure record for one month using notebook method
3. Visit to a bank and a post office to study the types of saving schemes
4. Getting to know the opening and closing of accounts, crediting money and transaction techniques.
5. Usage of ATM, Credit & Debit Cards.

TEXTBOOK

1. Management for Modern Families: Gross and Crandall.
2. Management in Family Living: Nickel and Dorsey
3. Aswathappa K (2020) Human Resource Management, Tata Mc Graw Hill Publishing Co., New Delhi
4. Kaur H. Macmeil, C (1999) Theory and Practice of Human Resource Management Surjeet Publication; New Delhi
5. Principles of Resource Management by Philip Kotter
6. Nair, S.R. (2002). Principles of Resource Management, Himalaya Publishing house

REFERENCES

1. Mann, M.K.,(2004). Home Management for Indian Families. New Delhi: Kalyani Publication.
2. Seetharaman, P, (2005), Introduction to Family Resource Management. New York: CBS Publishers, London.
3. Goel, S., (2016), Management of Resources for Sustainable Development. New Delhi: Orient Black swan Publication, India.

WEB LINKS

1. https://ncert.nic.in/textbook/pdf/kehe104.pdf
2. https://www.sscasc.in/wp-content/uploads/downloads/BBM/Human-Resource-Management.pdf

MJD 14– BHSC 307

CLOTHING CARE AND CONSTRUCTION

Credit:4 **Hours: 5**

UNIT I

Care of textiles - Laundry agents - Selection of suitable soaps, detergents, bleaches, whitening agents, stiffening agents, dry cleaning agents and stain removal agents. Laundering equipment's. Laundering –Principles of laundering, general methods of laundering-dry cleaning process, stain removal.

Laundering and storing method for cotton, wool, silk, rayon and synthetic fabrics.

UNIT– II

Family Clothing Plan-Principles of preparing a clothing budget, planning and analyzing the wardrobe requirements of the various members of family based on place, income, status, age, sex and activities. Clothing for infants, pre- schoolers and college girls.

UNIT– III

Clothing Selection - Color - in relation to season, occasion, size, figure and complexion. Texture and line in relation to size and figure. Fashion–Definition, fashion cycle, sources, advantages and disadvantages. Readymade garments in relation to cost and materials.

UNIT– IV

Techniques of Clothing Construction-Study of basic hand stitches-temporary and permanent. Selection, use and care of sewing machine and sewing tools. Seams and seam finishes. Methods of introducing fullness into a fabric-darts, tucks, pleats and gathers, ruffles and smocking. Plackets-continuous bound, faced, zipper and tailored. Neck finishes - true bias facing, shaped facing, binding. Fasteners-Button and button hole, fabric loops, press buttons, hooks and eyes and eyelets.

UNIT– V

Principles of Clothing Construction - Importance of drafting and making paper patterns. Taking body measurements for different types of garments. Preparation of fabric for clothing construction. Placing and cutting of paper pattern in relation to

texture and design of fabrics.

TEXT BOOKS

1. Thangam Subramanian, Dressmaking, Tailoring and Embroidery College, Ambattur, Chennai.

2. Dantyagi S.,(1996):Fundamentals of Textiles and their care. Orient Longman Limited, New Delhi.

3. Vatsala, R (2003) Textbook of Textile & Clothing, Indian Council of Agriculture Research

4. Basic Process & Clothing Construction: Sherie Doonyaji & Raushmi Desh Pandey

5. Household Textiles & Laundry work: Durga Deulkar

6. Textile fabrics and their selection wintage

REFERENCES

1. Mary Mathews, (1974): Practical Clothing Construction, Part I and Part II, Thompson and Co. Pvt. Ltd., Chennai.

2. Agarwal. M.,(2005): Home Science & Textiles, ABD Publishers, Jaipur.

3. Yadav. S,(1997):Text book of Textile & Laundry, Anmol Publications, Pvt Ltd ,N .Delhi.
4. Grosick Z, (1988):Watson's Textile Design and Colour, Universal Pub. Corporation

WEBLINKS

1. E-Adhyayan-http://ebooks.inflibnet.ac.in
2. http://nios.ac.in
3. http://www.studocu.com/in/document/the-english-and-foreign-languages-university/textile-engineering/principles-of-clothing-construction-pattern-making/39726052

MJD 15– BHSC 308

COMMUNICATION FOR DEVELOPMENT

Credits: 4 **Hours: 5**

COURSE OBJECTIVES:

1. Understand key theories around communication, development, culture, behavior and social change
2. Describe key theories around communication, culture, behavior and social change
3. Define key concepts, principles, approaches, methods and techniques
4. Recall the role of research, design, development, implementation and monitoring and evaluation to programming

Course Outcome:

1. Understand key theories around communication, development, culture, behavior and social change.
2. Describe key theories around communication, culture, behavior and social change.
3. Define key C4D concepts, principles, approaches, methods and techniques.

UNIT I

Concept of Development Communication

a) Concept of development, characteristics of developing countries
b) Measuring development- Indices of measuring development and classification of countries based on development indices
c) Models of Development- Dominant Paradigm, Basic Needs Model, New Paradigm of development
d) Development Communication-concept and genesis, characteristics, differences between

Communication and Development Communication

UNIT II

Understanding Paradigms of Development

Press theories: Normative: Authoritarian, Libertarian, Social Responsibility, Democratic Participant theory; Sociological: Uses & Gratification, Agenda setting; Two-Step Flow; Psychological; Bullet Theory

UNIT III

Success stories in Development Communication, Innovations and trends in Development Communication, Philosophy role and approaches to Development Communication

UNIT IV

Development Communication and Media

Traditional Media: types, characteristics, role in development communication Development reporting- roles and responsibilities of a development reporter, ethics in reporting, specialized skills required and issues in development reporting, ICTs: scope in development communication.

UNIT V

News reporting: definition of news, ingredients and qualities of news, news value, types of news reports, structure of news reports, Radio news, features and commentaries. Radio and development communication. Television: Programs and genres; role in development communication, Cinema: role in development communication.

TEXTBOOKS

1. Narula, Uma (2014). Handbook of Communication- Models, Perspectives, Strategies, Atlantic, New Delhi.
2. Sen, Amartya (2000). Development as Freedom, Oxford University Press, New Delhi.
3. Servaes, J.(Ed.) (2008). Communication for Development and Social Change, Sage, New Delhi.Si nha,
4. Dipankar. (2013), Development Communication-Contexts for the twenty first century, Orient Black Swan, New Delhi.
5. Waisbord S. (2001), Family tree of theories, methodologies and strategies In development communication. Rockefeller Foundation, New York.
6. Development Communication and International Communication by Ganga Sagar Singh
7. Communication skills and personality Development by Anubhuti Dubey, Aradhana Shukla
8. Communication for Development- Third edition by Srinivas R. Melkote, H. Leslie Steeves

RECOMMENDED READINGS

1. Narula, Uma (1994) Development Communication, New Delhi, Hari and Publication
2. Servaes, Jan (2008). Communication for Development and Social Change, New Delhi,
3. Sage Publication
4. Paulo Mefalopulos. Development Communication Sourcebook- Broadening the boundaries of communication, The World Bank, 2008

WEB LINKS

1. https://nou.edu.ng/coursewarecontent/DES218.pdf
2. https://dspmuranchi.ac.in/pdf/Blog/DSPMU%20BJMC%2029042020-converted.pdf
3. https://egyankosh.ac.in/bitstream/123456789/78567/1/Unit-16.pdf

MJD 16–BHSC 309

CHILD RIGHTS AND GENDER EMPPOWERMENT

Credits: 4 **Hours:5**

UNIT I Understanding Child Rights

- Meaning of Child Rights and Convention on Child Rights
- Knowing disadvantage and exclusion in relation to children
- Demographic profile of the child in India
- The role of state, family and children in promotion and protection of child rights

UNIT II Children in Difficult circumstances

- Street Children, working children and homeless children
- Child abuse
- Child trafficking
- Children in conflict with law
- Laws and policies

UNIT III Conceptualizing Gender

- Defining terms- sex, gender, masculinity, femininity
- Socialisation for gender- gender roles, gender stereotypes
- Patriarchy and social institutions
- Perspectives on feminism

UNIT IV Gender Empowerment

- Demographic profile
- Issues and concerns related to girls and women in India
- Media and gender
- Laws, policies and programmes for girls and women in India

RECOMMENDATIONS & READINGS:

1. Agarwal, A. & Rao, B.V. (2007), Education of Disabled Children, New Delhi: Eastern Book Corporation.

2. Agnes, F. (1999). Law and Gender Inequality: The politics of Women's Rights in India.

3. Bajpai, A. (2006). Child Rights in India: Law, Policy and Practice. Oxford University Press.

4. Satyarthi, K. and Zutshi, B.Ed (2006), Globalization, Development & Child Rights. New Delhi: Shipra Publication

5. Saikia, N. (2008). Indian Women: A Scio-legal perspective New Delhi: Serials Publication

WEBLINKS

1. http://education.vikaspedia.in/viewcontent/education/childrens-corners/child-rights/understanding-child-rights?/gn=en#section4
2. http://www.planinidia.org/wp-content/uploads/2025/02/children-in-Difficult-circumstances-Report.(pdf)
3. http://genderandenvironment.org (pdf)

MJD 17 – BHSC 401

EXTENSION EDUCATION AND MANAGEMENT

Credits: 4 **Hours: 5**

Learning Objectives:

To obtain necessary skills in extension teaching and field work

To know the role of extension workers in planning programmes for the community.

Course Outcome:

- Get familiarized with various aspects of extension approaches and methods
- Provide knowledge and skill in designing, planning, executing and evaluating the extension programme
- Provide opportunities through field visits and understand the functioning of various extension institutions

UNIT I

Rural Society: Meaning, scope, & characteristics.

Rural social groups-primary and secondary groups, formal and informal groups, temporary and permanent groups, reference groups, cultural interest groups (in brief).

Informal rural institutions: family, caste (in brief).

Formal rural institutions – Village school, Panchayat Raj, Village co-operatives (in brief).

UNIT II

Extension Education: Meaning, definition, philosophy, principles, and functions. Difference between formal and non-formal education.

Role and qualities of an extension worker. Functionaries in extension work – Block Development Officer (BDO), Extension Officer (EO), Village Level Worker (VLW) (in brief). Adoption-diffusion process.

Leadership – styles in leadership. Role and qualities of a leader.

UNIT III

Stakeholders in development. People's participation and social mobilization in development

Extension systems- types, advantages and disadvantages. Diffusion of innovation and adoption

Extension methods and approaches - classification, characteristics and selection

UNIT IV

Teaching: Factors contributing to good teaching, steps in extension teaching.

Learning: principles of learning, elements of learning situation, learning experiences.

Development issues and goals- national and international perspectives

National Development Programmes – goals, strategies, structure and achievements

Analysis of contemporary national development programmes- objectives, clients, salient

features, outcomes and communication support.

UNIT V

Extension programme development: Meaning& importance of having a programme.

Principles of programme planning, steps in extension programme cycle.

Evaluation: Meaning & types of evaluation.

Development Programmes offered for the vulnerable segments by the Indian

Ministry of Social Welfare, Ministry of Rural Development

RELATED EXPERIENCE / PRACTICAL

1. Visit to a Block to understand its set up and importance in rural development
2. Visit to DRDA and discussion with officials on the current programme.
3. Visit to K.V.K
4. Visit to a Mahila Mandal.
5. Planning and implementing a programme for women and children
6. Familiarizing with audio visual aids
7. Studying the functions of ICDS.

TEXTBOOKS

1. Supe, S.V., (1994): An Introduction to Extension Education, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

2. Reddy, A., (2006): Extension Education, Sree Lakshmi Press, Bapatla, A.P.

3. Desai, A.R, Rural Sociology in India. Popular Prakashan, 1994

4. De, Rural Sociology, 2012, Pearson Publication, New Delhi

REFERENCES

1. Dahama, O.P., and Bhatnagar, (1980): Education and Communication for development, Oxford and IBH publications Co.

2. Ray, G.L., Extension communication and management, Naya Prakash, Calcutta.

MJD 18– BHSC 402

RESEARCH METHODOLOGY & STATISTICS

Credits: 4 **Hours: 5**

Learning Objectives:

To develop scientific skills and expertise in formulating problem for research

To evolve research designs, and use of methods and techniques in conducting research, and To develop professional skill in writing a research report

Course Outcome:

The scholars will be able to

- Identify and formulate a problem for research
- Prepare a suitable research design for carrying out the research
- Choose appropriate tools and techniques for data collection
- Prepare research report and disseminate research findings

UNIT I

INTRODUCTION - Scientific Research – Definition of Research, scope of research in Home-science, research designs and methods; Experimental, explorative, descriptive and historical research; Diagnostic and Evaluation studies, Qualitative and Quantitative studies, Trend and Futuristic studies, Ethnography, Grounded Theory, Mixed Methods.

UNIT II

RESEARCH PROCESS - Identification, Selection and Formulation of problem, Sources and criterion for selection; Review of literature and Summarizing, Conceptual Model; Objectives, Hypothesis formulation, Variables and its types.

UNIT III

SAMPLING TECHNIQUES AND DATA COLLECTION - Sampling and Sample Designs: Laws of Sampling - Methods of Sampling - Sample Size; Sampling and Non Sampling Errors; Data – Primary and Secondary data – Data Collection Tools.

UNIT IV

DATA PROCESSING - Scoring, Categorization and Coding – Draw of inferences and interpretation, diagrammatic and graphical representation of data.

UNIT V

DATA INTERPRETATION AND REPORT WRITING - Research Report –Steps in writing Research Report, Types of reports, Format of a research report; Bibliography, Webliography, Style of writing; Plagiarism check– Evaluation of a research report; Dissemination of research findings- Presentation and Publication.

REFERENCES

TEXT BOOKS

1. Kothari.C.R, Research Methodology (Methods & Techniques), New Delhi: New Age International (3rd ed), 2014. • Kundra S., Reporting Methods, New Delhi: Anmol Publications Pvt. Ltd., 2005.
2. Bridget Somekh and Cathy Lewin, Theory and Methods in Social Science Research, New Delhi: Sage Publication, 2012
3. Creswell, John. W. Research Design: Qualitative, Quantitative, and Mixed Method Approaches (4th ed). Thousand Oaks, CA: Sage, 2014.
4. Debasis Chakraborthy, Research Methodology, New Delhi: Sourath Publishing House, 2012 • Deepak Chawala and Neena Sandhi , Research Methodology: Concept of Cases, New Delhi: Vikas Publication House Pvt Ltd, 2011
5. Kenneth's Barden and Bruce B. Abbott, Research Design: Qualitative and Quantitative Approaches, Tata MaGrew Hill Education Pvt, New Delhi, 2011.
6. C.R.Kothari and Gaurav Garg- Research Methodology: Methods and Techniques (one of the most widely used book in India)
7. R. Panneerselvam- research methodology.
8. K.N. Krishnaswamy, Appa Iyer Siva kumar & M. Mathirajan- Management Research Methodology.
9. R. Sreedharan- A textbook of Research Methodology: Concepts and Cases.
10. Deepak Chawla & Neena Sondhi- Research Methodology: Concepts and Cases.
11. Ranjit Kumar- Research methodology. A step-by-step Guide for Beginners Methodology.
12. John W. Creswell- Research Design: Qualitattive, Quantitative, & mixed methods Approaches
13. Richard Levin & David S. Rubin- Statistics for Management.
14. S.C. Gupta & V.K. Kapoor- Fundamental of Mathematical Statistics.
15. Robert S. Witte & John S. Witte- Statistics.

16. Murray R. Spiegal (Schaum's outline) Theory and Problems of statistics.

17. J.K. Sharma- Business Statistics.

18. Naval Bajpai- Business Statistics.

WEBSITES

- https://www.socialresearchmethods.net/
- https://ndl.iitkgp.ac.in/
- http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291099-1328/issues
- http://shodhganga.inflibnet.ac.in/
- INFLIBNET (UGC) http://www.inflibnet.ac.in(indian digital library for theses & research paper)
- Shodhganga http:// Shodhganga. inflibnet.ac.in (phd theses repository by indian university)
- NPTEL (IIT-IISc)-http://nptel.ac.in(Free courses on statistics, research methodology, data analysis)
- UGC NET e- content- https://epgp.inflibnet.ac.in (e-PG Pathshala for research methodology & Statistics modules)
- Google Scholar (Scholar. Google.com) for finding research papers.

MJD 19 BHSC 403

Recent Trends in Home Science

Credits :4 **Hours :5**

Learning Objectives

To get knowledge on agro textiles and convertible wears to promote agriculture sector

- To learn about the trends in food behavior
- To know about the issues and remedies of community based problems to children

Course outcome

Students will be able to

i) Develop professional skills in food, nutrition, textiles, housing, product making etc.

ii) enable to take science from the laboratory to the people.

iii) create awareness and critical sensitivity towards community issues and process

UNIT I

Agro Textiles – Need and application. Significance. Types of fibers and their application in agro textiles. Requirements and marketing strategies

UNIT II

Domestic Violence on Children: Definition, Types, Consequences on children – Physical effects, Psychological effects, Relationship effects, Education effects, Support and protection against domestic violence

Current Perspectives in Reproductive Health of Adolescents: A Review of Indian Studies, Barriers in Utilizing Health Care Services, Recommendations

UNIT III

A Multi-Functional Convertible Clothing – Approach and development of convertible wears, concept and value of multifunctional clothing, Characteristics and techniques. Advantages and limitations.

Sustentation of Textile Collections in Museums – Concept of textile conservation, knowledge and skills required for textile caring, Prevention of damage from environmental sources, factors causing deterioration, Display techniques.

UNIT IV

Indoor Environment: Light, Noise, Humidity and Temperature. Guiding Principles for Sustainable Federal Buildings, Indoor Environmental Quality (IEQ) sick building syndrome

Architectural Dimensions- General considerations, Flooring, Stairs, Storage, Workstations, Furniture, Fixtures & Equipment

UNIT V

Food consumption trends – dimensions of food consumption behavior, Drivers of food consumption, Health impacts of new trends of food consumption. Changes in food behavior of different age groups

REFERENCES

1.Recent Advances in Home Science (Volume - 3) (2022) Edt. Prof. Harapriya Samantaraya, Dr. Madhu Sharan and Dr. Karnam Anuradha

2. Domestic Violence and Children: A Handbook for Schools and Early Years (2009) Routledge; 1st edition.

3. Benchmarks in Collections Care for Museums, Archives and Libraries, a self-assessment checklist, Resource, 2002

4. Indoor Environmental Quality (2019) Doi10.5772/intechopen.75787,ISBN978-1-78985-252-3

5. Consumer Behaviour in Food and Healthy Lifestyles: A Global Perspective Hardcover (2020) Dr. Issac K. Ngugi

6. Recent Advances in Home Sciences by Harapriya Samantaraya, Madhu Sharan, and Karnam, Anuradha.

7. Neelima Gupta & Vinod Gupta (Sustainable Fashion, the use of technology in Home Science)

8. V. Vijaya Laxshmi "current trends in Home Science".

9. Home Science: Paths and opportunities, also featuring authors Dr. Neelima Gupta, Dr. Archana Bhat Sharma, and Dr. Arpana

10. A competitive Book of Home Science and community science "by Dr. Manju Yadav, Dr. Barbhai Mrunal D., Anshika Srivastava

WEBSITES

1. http://www.bspublication.com (Current trends in home science vol-5)
2. http://www.integratedpublications.in"Recent Advances in Home Science (vol-70
3. Recent trends in Home Science & Extension (https://www.akinik.com)
4. https://www.researchgate.net
5. http://www.homesceincejournal.com (international Journal of Home Science)

MJD 20 – BHSC 404

GUIDANCE AND COUNSELLING

Credits: 4 **Hours: 5**

Learning Objectives:

1. To develop an understanding of the concepts of guidance and counseling.
2. to develop an understanding of the types of guidance.
3. to acquaint students with different testing devices and techniques of guidance.
4. To develop and understanding of the role of teacher as counselor.
5. To create an awareness of the working of guidance centers.

UNIT I

Meaning, nature, need of guidance. Functions of guidance. Types of guidance- educational guidance- meaning, need and importance. Vocational guidance- meaning need and importance. Personal guidance- meaning need and importance.

UNIT II

Guidance services: Job analysis – concept, need. Job satisfaction – concept, factors affecting job satisfaction. Occupational information- concept, need.

UNIT III

Guidance of the differently abled students- gifted, slow learners, learning disabilities (dyslexia, dysgraphia, dyscalculia) – identification. Mainstreaming and providing support services to differently abled students.

UNIT IV

Counseling- meaning, purpose, scope. Types of counseling- directive, non-directive, eclectic. Process of counseling (Introduction in depth, communication, suggestion). Skills in counseling, (listening, questioning, responding). Role of the counselor, professional ethics of a counselor.

UNIT V

Tools of guidance and counseling- psychological test- meaning, need, limitations. Testing –intelligence, aptitude, attitude, achievement, interest, personality.

Techniques of guidance and counseling a) interview- types, procedure b) case study c) cumulative record d) anectodal record e) diary f) questionnaire

REFERENCES

1. Agarwal J.C, (2004) educational and vocational guidance and counseling, seventh edition doaba house, delhi.

2. Agarwal J.C. 2005 career information in career guidance- theory and practical doaba house, delhi

3. Chauhan S.S. Principles and techniques of guidance.

4. Dash, M (1997) education of exceptional children, atlantic publishers, new delhi.

5. Dev Kapil (2006) educational counseling, pragun publications, new delhi.

6. Ram Nath Sharma & Rachana Sharma (Guidance and Counselling in India)

7. Asha. K. Kinra (Guidance & Counselling Pearson)

8. Dr. A. Sivakumar & A. Arun

9. Dr. Sita Ram Jayaswal

10. Guidance 7 Counselling by Dr. Sunita Chabbra

WEBSITES

1. E-pathshala (NCERT/ CIET)
2. SWAYAM
3. Study Places.co.in
4. TES India (A teacher- driven platform)

MJD 21 – BHSC 501

ERGONOMICS

Credits: 4 **Hours :5**

Learning Objectives:

- To learn the principles of ergonomics and their applications.
- To learn about the proper use of equipment, tools, and machine controls.
- To use good work practices, including proper lifting techniques.

Course Outcome:

- Able to learn about the designs.
- understand the concept of Ergonomics.
- Design work areas using ergonomic principles.

UNIT I

Introducing Ergonomics: Concept of ergonomics – Meaning, importance, factors involved – worker, work place, tools and equipment, environment, climate.

UNIT II

Work environment – Location, space, indoor and outdoor climate, furniture, lighting and ventilation, flooring, noise, storage facilities, kitchen layouts.

UNIT III

Human physical dimension concern- Anthropometry – Anthropometric dimension of workers at work and at rest, normal and maximum vertical and horizontal reaches, work heights when seated and standing, worker in relationship with workspace and activities.

UNIT IV

Posture and movement -Improving work efficiency- Concept of efficiency, principles and work and implication technique, effective use of body mechanics, posture involved in difference activities, Mundel's classes of change.

UNIT V

Performance support and design intervention- Design of work place – Activity analysis – Designing work areas based on ergonomics principles.

TEXT BOOKS

1. Singh,S (Edt),Ergonomics Interventions for Health and Productivity, Himanshu Publications, Udaipur, New Delhi, 2007

REFERENCE BOOKS

1. Barner, R.M., (1980), Motion and Time Study, Design and Measurement of work,
2. John Wiley, New York.
3. Borgert, E. (1982) Housecraft – Principles and Practices, Issac Pitman, London.
4. Chaffin, D.B. and Andersson, G.B.J. (1984) Occupational Biomechanics, John Wiley,
5. New York.
6. Cromwell, L. Weibell, F.J. and Pfeirffer, E.A. (1991) Biomedical Instrumentation and
7. Measurements, Prentice Hall, New Delhi.
8. Ergonomics- How to design for ease and efficiency, 3rd edition, k. Kroemer Ebber, H.B. Kroemer. A.D. publication.
9. Handbook of Human factors and Ergonomics 4th Edition. Salvendy

MJD 22 – BHSC 502

NUTRITION IN EMERGENCIES AND DISASTERS

Credits: 4 **Hours: 5**

Learning Objectives:

To enable the students to:

1. Familiarize with various natural and manmade emergencies and disasters having an impact on nutrition and health status.

2. Understand the special nutritional concerns arising out of these situations.

3. Learn strategies for nutritional rehabilitation management of the health of emergency
affected populations.

4. Be acquainted with emergency preparedness and response programs.

Course Outcome:

The students will be able to:

a) Identify various forms of malnutrition and micronutrient deficiencies that occur during emergencies.

b) Conduct nutritional surveillance in emergency conditions.

c) Devise nutritional relief and rehabilitation strategies during emergencies and disasters.

UNIT I

Natural/Manmade disasters resulting in emergency situation

Famine, drought, flood, earthquake, cyclone, war, civil and political emergencies. Factors giving rise to emergency situation in these disasters. Illustration using case studies from Indian subcontinent.

UNIT II

Communicable diseases: surveillance and treatment

Control of communicable disease in emergencies – Role of immunization and sanitation, prevention and treatment of specific diseases- viral hepatitis, malaria, acute respiratory infections, measles, meningitis, tuberculosis, typhoid fever, scabies, worm infections,
HIV/AIDS.

UNIT III

Nutritional problems in emergencies in vulnerable groups

Causes of malnutrition in emergency situations. Major deficiency diseases in

emergencies. Protein – energy malnutrition. Specific micronutrient deficiencies- iron, iodine, vitamin A, vitamin B1, niacin, vitamin D, etc.

UNIT IV

Assessment and surveillance of nutritional status in emergency affected populations

Scope of assessment of malnutrition in emergencies. Indicators of malnutrition. Clinical signs for screening acute malnutrition. Anthropometric assessment of nutritional status. Indicators and cut– offs indicating seriously abnormal nutrition situation: Weight-for height based indices, MUAC, social indicators. Organization of nutritional surveillance and individual screening.

UNIT V

Nutritional relief and rehabilitation - Food distribution strategy – identifying and reaching the vulnerable group – Targeting Food Aid. Mass and supplementary feeding. Therapeutic Feeding. Feeding centre, transportation and food storage, sanitation and hygiene, evaluation of feeding programmes and household food security and nutrition in emergencies.

Emergency preparedness and response programmes, administration of distribution centers and camps.

REFERENCE TEXTBOOKS:

1. WHO. The management of nutrition in major emergencies, World Health Organization, Geneva. 2000.

2. FAO. FAO's Emergency Activities, Rome. 1997.

3. MSF. Refugee Health: An Approach to Emergency Situations, London: MacMillan for
MSF. 1997.

4. Swaminathan M. Essentials of Food and Nutrition, Vols. II, Ganesh and Co., Madras.
2010.

5. WFP. World Food Programme. Food and Nutrition Handbook Draft, Rome. 1999.

6. WFP/ UNHCR. Guidelines for selective feeding programmes in emergency situations,
Rome and Geneva: WFP and UNHCR. 1988.

7. Food and Nutrition in Emergencies, June, Neff Pierre Louis, Publication. John Hopkins. 2008

8. Life Cycle Nutrition for Public Health, Broader public health perspectice with emergency components, author Kyle Thompson, Published By Springs.

SUGGESTED READINGS:

1. WHO. Applied Health Research Priorities in Complex Emergencies,Geneva.1997.
2. USCR. World Refugee Survey, Washington. 1999

MJD23 – BHSC 503

NGOs & CORPORATE SOCIAL RESPONSIBILITY

Credits: 4 **Hours: 5**

Learning Objectives:

To enable the students to:

Get familiarized with the details of establishing a NGO in India and its benefits

Understand the role of CSR in improving the standard of living of the down trodden.

UNIT I

Concept of NGO: Meaning of NGO and GO, Difference between Government Organizations and NGO, Characteristics of good NGO, Structure of NGO, Functions of NGO, Historical Perspective of NGO, Advantages of NGO, Present status of NGO, Contribution of NGO in the Development. Role of International NGO in development.

UNIT II

Establishing a NGO: Steps for starting NGO, Registration of NGO, Selection of Personnel, Training of Personnel, Proposal writing under NGO, Identifying Funding agencies, Resource Mobilization, Planning, Implementation and Evaluation strategy under NGO. Accountability and impact assessment for NGOs

UNIT III

NGO Management: Organizational types and structures, Managing people and teams in NGOs, NGO management competencies

UNIT IV

CSR: Meaning, CSR Process, Steps in developing a CSR strategy and policy evolution. Tools, technical guidance and standards to be used for assessment.

UNIT V

Indian Scenario: Overview of CSR in India, CSR initiatives government and corporate establishments.

REFERENCES:

1. S. Chandra, Guidelines for NGO Management in India (2003), Published by Kanishka Distributors, New Delhi
2. D. Lewis, Management of Non Governmental Development Organization (2001), Second Edition, Published by Routledge, New York.

3. A. Abraham, Formation and Management of NGOs (2003), Third Edition, Published by Universal Law Publishing Co. Pvt Ltd., New Delhi.
4. Sundar, P. 2013, Business and Community: The Story of Corporate Social Responsibility in India , New Delhi, Sage Publication.
5. Aggarwal, S.2008, Corporate Social Responsibility in India, Sage Publication Pvt. Ltd.
6. Corporate Social responsibility, (SAGE), author Esben R.G. Pedersen
7. Governance and Social Responsibility, author, Giler Aras & David Crowther, Publication- Routledge (Gower emprit)
8. NGOs and corporation, author- Samarendra (taziji) and Graeme A Doh Publication-Cambridge University Press, edition, 2009-2010.

LIST OF MINOR COURSES

B.Sc. (Honors) HOME SCIENCE

Minor stream I

MID 1 – BHSC - 103

FOOD PRESERVATION

Credit: 4 **Hour: 5**

Course Objective:

1) To acquire knowledge of food preservation and preservation technique.
2) To know the importance and basic principles of food preservation.

Course Outcomes:

Students will gain knowledge about food preservation technique

UNIT I

Introduction to food preservation, Concept, importance of food preservation. Principles of preservation, microorganisms associated with foods- bacteria, yeast and mold, Importance of bacteria, yeast and molds in foods. Preservation by Using Sugar: Jams and Jellies, salts: Pickling, Chemicals: Sauce making and Fermentation: Cheese making.

UNIT–II

Food Preservation by Low temperature:

Freezing and Refrigeration: Introduction to refrigeration, cool storage and freezing, definition, principle of freezing, freezing curve, changes occurring during freezing, types of freezing i.e., slow freezing, quick freezing, introduction to thawing, changes during thawing and its effect on food.

UNIT III

Food Preservation by high temperature

Thermal Processing-Commercial heat preservation methods: Sterilization, commercial sterilization, Pasteurization, and blanching.

UNIT–IV

Food Preservation by Moisture control Drying and Dehydration -Definition, drying as a means of preservation, differences between sun drying and dehydration (i.e. mechanical drying), heat and mass transfer, factors affecting rate of drying, normal drying curve, names of types of driers used in the food industry.

UNIT–V

Food Preservation by irradiation Introduction, units of radiation, kinds of ionizing radiations used in food irradiation, mechanism of faction, uses of radiation processing in food industry, concept of cold sterilization.

TEXT BOOKS:

1.) Prakash Triveni: Food Preservation, Aadi Publication, Delhi. 2020

2.) M. Shafiur Rahman: Hand Book of Food Preservation, Marcel Dekker Inc, Newyork. 2007

3.) Mc Willims and Paine: Modern Food Preservation, Surjeet Publication. 2020

REFERENCES:

1)Fellows, P. and EillsH. 1990 Food Processing Technology: Principles and Practicals, New York

2) NPCS Board, Modern Technology on Food Preservation Desai, B. B., 2000, Handbook of Nutrition and Diet, Marcel Dekker Inc., New York. Gould, G. W., 1995, New Methods in Food Preservation, Blackie Academic and Professional, London

3) Desai, B. B., 2000, Handbook of Nutrition and Diet, Marcel Dekker Inc., New York. Gould, G. W., 1995, New Methods in Food Preservation, Blackie Academic and Professional, London

WEB LINK:

https://www.masterclass.com/articles/a-guide-to-home-food-preservation-how-to-pickle-can-ferment-dry-and-preserve-at-home

https://byjus.com/biology/food-preservation-methods-food-poisoning/

https://www.ficsi.in/blog/common-food-preservation-techniques/

https://ebooks.inflibnet.ac.in/ftp1/chapter/food-drying-dehydration/

https://en.wikipedia.org/wiki/Food_drying

MID 2 – BHSC - 104

HOUSEHOLD CLEANING AND PEST CONTROL

Credits:4 **Hours: 5**

Course Objectives:

- To learn the basics of house hold cleaning.
- To learn basics of pest control
- To learn garbage disposal methods.

Course Outcome:

- The student will be able to clean house, house hold equipment.
- The student will be able to clean metals.
- The students will be able better equipped to control house hold pests and manage garbage.

UNIT I

FUNDAMNETALS OF CLEANING: Meaning and importance of cleaning, methods of cleaning, cleaning equipment and their uses, schedules and procedures of cleaning. Cleaning materials (water, detergent, abrasives, acids, alkalis, bleaches, solvents, polishes) and their uses.

UNIT II

CLEANING HOUSE HOLD AND METALS: General cleaning routine for all the rooms (Living room, kitchen, dining room, bed room, bathroom, lavatory, halls, verandas, stairways). Cleaning of metals in home (Brass, copper, enamel, tin, aluminium, steel, silver, gold, ceramic).

UNIT III

HOUSE HOLD EQUIPMENTS-: Classification and selection of household equipments, correct uses of household equipments, care and maintenance of house hold equipments.

UNIT IV

HOUSEHOLD PESTS: Common household pests and their life cycles. Effective ways to control household pests: Ants, beetles, weevils, bed bugs, cockroaches, fleas, flies, mosquitoes, lice, termites, white ants, rats, mice.

UNIT V

GARBAGE DISPOSAL: Different Methods, Advantages & Disadvantages, vermin-composting- Importance, methods, steps.

TEXTBOOKS

1. Text book of Home Science, Premlata Mullick Publisher: Kalyani Pub., 1995.2. David,

2.M.Allen:Accommodationandcleaningservice,Vol.1&2.HutchinsonPublishingGroup17-21Conwaystreet,London.

REFERENCES

1. Gladwell Derek: Practical Maintenance of equipment for hoteliers, Licenses and caterers, Hutchins on and Co. Pvt. Ltd.

2. Hurst Rosemary: Accommodation Management for Hostel and residential establishment.

WEBLINKS

1. 1.https://www.extermpro.com/household-products-that-can-kill-pests/#:~:text=Many%20household%20cleaners%20are%20very,to%20most%20pests%2C%20especially%20spiders
2. https://www.urbancompany.com/blog/5-reasons-to-get-pest-control-done-after-house-cleaning-tips-tricks/

MID 3 – BHSC - 105

CHILDREN WITH SPECIAL NEEDS

Credit: 4 **Hours: 5**

Course Objectives:

- Understand the need special children
- Get acquainted to the concept of community education
- Understand the techniques of imparting parent education programme.

Course Outcome:

Develop educational materials and apply skills to plan, conduct and organize parent education programmes in community

UNIT I

Defining disabilities. Models of disability. Classifying disabilities. Social construction of disability, Demography

UNIT II

Identification, Assessment and etiology with reference to Locomotor disability, Visual disability, Auditory and speech disability, Intellectual disability, Autism, Learning Disability

UNIT III

Families of children with disability, Prevention and management of different disabilities, Educational practices- Special education and inclusion, Policy and laws.

UNIT IV

Role of professional, Contribution of professionals in parent and community education, Training programmes for young parents. Evaluation of parent and community education programmes.

UNIT-V

Methods of Parent Education and Counseling- Strategies and Management skills for parents to deal with normal children. Children of developmental delays and disabilities. Counselling parents of Children with Special Needs

TEXTBOOKS

- Chopra, G.,(2012). Early Detection of Disabilities and persons with disabilities in the community. New Delhi: Engage publications
- Chopra, G., (2012). Stimulating Development of Young Children with Disabilities at

Anganwadi and at Home: A Practical Guide. New Delhi:Engage publications.

- Sharma, N. (Ed) (2010) .The Social Ecology of Disability-Technical Series-3 Lady Irwin College. Delhi: Academic Excellence
- Mangal, S. K. (2007).Exceptional children: An introduction to special education. New Delhi :Prentice Hall of India
- Mangal,S.K.(2012).Exceptionalchildren:Anintroductiontospecialeducation, second edition, New Delhi :Prentice Hall of India

REFERENCES

- Jangira, N.K.(1997) "Special Educational Needs of Children and Young Adults:AnUnfinishedAgenda,"EducationandChildrenwithSpecialNeeds:FromSegregation to Inclusion, Ed. Seamus Hegarty, Mithu Alur, Thousand Oaks: Sage Publications Inc.
- Karna, G. N. (1999). United Nations and rights of disabled persons: A study in Indian perspective. New Delhi: A. P. H. Publishing Corporation.
- Mani,R.(1988).PhysicallyhandicappedinIndia.Delhi:AshishPublishingHouse.Mastropieri, M. A., & Scruggs, T. E. (2004). The inclusive classroom: Strategies for effective instruction. N Y:Pearson.

WEBLINKS

- https://egyankosh.ac.in/bitstream/123456789/46913/1/Unit-15.pdf
- https://ncert.nic.in/pdf/publication/otherpublications/SpecialNeeds.pdf

MID 4 –BHSC - 106

ADVANCED NUTRITION

Credit: 4 **Hours: 5**

Course Objectives:

1. To familiarize students with changes occurring in the physiology and metabolism of human body as a result of change in altitude, gravity and exercise.
2. To provide in-depth knowledge of nutrients requirement and management of diet during space, sea and air travel

Course Outcomes:

Students will be able to:

1. know the importance of nutrition management in exercise and sport performance

2. analyse the coping mechanism of human body during high altitude and sea travel

3. gain knowledge on food modifications to bed one during space travel and see travel

UNIT I

Exercise Physiology: Concept of energy, work and power; Effect of exercise on muscular, nervous, cardiovascular and respiratory system; Energy metabolism; energy systems during exercise; Components of energy expenditure such as BMR, thermogenic effect of food and physical activity; Energy cost of exercise; Nutrition management during exercise.

UNIT II

Sports Nutrition: Need and scope of sports nutrition; Preparation for competition such as pre game meal, meal during game and post game meal; Concept of carbohydrate loading and the methods of carbohydrate loading; Nutrition management during sports/ game; Ergogenic aids in sports.

UNIT III

High Altitude and Space Nutrition: Physiological changes due to high altitude; Acclimatization process; Altitude sickness and related health problems; Nutrient requirements and dietary management of mountaineers. Space Nutrition: Need and scope for space travel; History of space travel; Physiological changes in astronauts; Nutrient requirement and dietary management during space travel.

UNIT IV

Sea and Air Travel Nutrition: Physiological changes in human body during sea and air travel; Psychological preparedness for sea and air travel; Health and nutritional problems encountered during sea and air travel; Nutrient requirements and dietary management during sea and air travel

UNIT- V

Armed forces nutrition: The history of Military nutrition, Nutrient Support in Military person, the role of nutrient in injured person, Estimation of energy and protein metabolism in armed person

TEXT BOOKS

1. Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; Oxford & IBH Publishing Co. Pvt Ltd, 2009.

2. Lakra P,Singh MD.Text book of Nutrition and Health, First Ed, 2008; Academic Press

3. Defiance Food Services Integrated Project Food for thought (DV)

4. Carolyn D. Berdanier and Lynnette .A. Berdanier Advanced Nutrition: Macronutrients and Metabolism, 3rd edition, CRC Press

REFERENCES

1. Mahan ,L. K. and Ecott-Stump, S. (2000). Krause's Food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.

2. Ira Wolinsky (Ed) (2003): Nutrition in Exercise and Sports,3rd Edition, CRC Press

3. Gibney., "Public Health Nutrition", Black well Publishing,2004.

4. Srilakshmi B ."Dietetics" Seventh Edition, New Age International (P) Ltd, 2016

WEB LINKS

1. Tillmed.olympics.com/media/Document%20Library/OlympicOrg/IOC/Who- We-Are/Commissions/Medical-and-Scientific Commission/Encyclopaedia/2014_Maughan_002.pdf
2. https://www.nasa.gov/wp-content/uploads/2009/07/143163main_space.food_.and_.nutrition.pdf

MID 5 – BHSC - 107

DESIGN AND DÉCOR OF SURFACES

Credits:4 **Hours-5**

Course Objectives:

To enable the students to

1. Learn the fundamentals of surface finishes.
2. Understand the meaning of wall finishes.
3. Gain knowledge on ceiling finishes and its types.
4. Know the hard floor and soft floors.
5. Study the cost estimation cost and care and maintenance of finishes.

Course Outcome:

1. Apply the Fundamentals of interior and exterior treatments based on climate, cost, style and location.
2. Compare the types of structural and applied wall finishes.
3. Analyze the different treatments of ceiling finish with innovative materials
4. Classify the types of Hard, semi-hard and soft floor finishes.
5. Apply the various finishes based on laying, cost estimation, care and maintenance.

UNIT I

Fundamentals for interior and exterior treatments. Termite proofing, water proofing, acoustics, thermal comfort, fire protection. Plastering and painting. Factors influencing choice of treatments–climate, cost, style of house and location.

UNIT II

Wall finishes – Meaning, Structural wall finishes- Tiles, Wood, Terracotta, Marble wash, Metals and stone finishes. Applied wall finishes– Glass, Paint, Wallpapers, Murals, Fabric, Metal sheet and Mirror

UNIT III

Ceiling Finishes – Definition, types, Treatment – plastering, embossing, fresco, glass, false ceilings and other innovative materials.

UNIT IV

Floor finishes– Definition, Hard floors- Terrazzo, wood, mosaic, tiles, marble and granite. Semi hard Floors–Vinyl, linoleum, Rubber and cork. Soft floors–Carpets and Rugs

UNIT V

Selection, laying, cost estimation , care and maintenance of wall, Roof/ Ceiling and Floor Finishes. Application of various finishes in interior and exterior.

TEXTBOOKS:

1. Ostrow. J.(2001) ,Painting rooms, Rock port publishers, USA.

2. Clifton. c. et al ,(1995), The Complete Home Decorator, Conran octopus Ltd, London.

3. Spancer, H. and Churchill, (1990), Classic English Interiors, Anaya Publishers Ltd, London.

REFERENCES:

1. Innes, J.(1990),Exterior Detail, Collins and Brown Ltd, London.
2. Love. G.(2000),Inside out, Conron octopus Ltd, London.

WEB LINKS

1. https://bharatskills.gov.in/pdf/E_Books/IDD_Volume_I_of_II_Theory.pdf

2.https://core.ac.uk/download/pdf/80710375.pdf

3. http://ebooks.inflibnet.ac.in

MID 6 – BHSC - 108

FOOD LAWS AND REGULATIONS

Credits:4 **Hours-5**

Course Objectives:

1. Get insight on food safety issues in India.
2. Know the National and international Food safety Laws.
3. Understands the safety Management of Foods in household and Food Industries.
4. Learn about the food security management concepts and Practices.

Course Outcome:

1. Understand the introduction of food safety and issues in India
2. Enumerate function of national and international organizational for food safety.
3. Gain knowledge on safety assessment of food additives and supporting laws.
4. Acquire insight on food and nutrition security and globalization of food system.
5. Learn about the food and agriculture policies.

UNIT I

Food Safety - definition of food safety and food spoilage, factors affecting food safety and food spoilage: GMP, GAP, SSOP, GHP, food adulteration - definition, types adulteration in various foods-intentional, incidental ,and metallic contaminants.

UNIT II

Food Laws and Regulations National Legislation - Essential Commodities Act, Standard of Weight and Measures Act, ISI, Mark of BIS, Agmark, BIS.GRAS and permissible limits for chemical preservatives and legal aspects for γ - irradiations. International Laws and Agreements - FAO, WHO, Codex Alimentarious, WTO, JECFA, APEDA, ISO 22000 series, Recent concerns in food safety: New and Emerging Pathogens. Genetically modified foods / Transgenics / Organic foods. Newer approaches to food safety. PFA, FPO, Food Safety and Standards Bill 2005.

UNIT III

Hazard Analysis Critical Control Point (HACCP): principles of HAACP, applications of HACCP Current Food Safety Standards in India, Current Food Safety regulations 2001, Food Safety and Standards Authority of India, objectives of developing food safety standards, enforcement of structure and procedure, role of food analyst, safety analysis, action by designated officer and report of food analyst.

UNIT IV

Food and Nutrition Security–hunger and malnutrition, definition and measurement. Factors contribution to food security, food availability. Foreign aids, food aids and development. Global sustainability, environmental impacts of world food system. Government failure and intervention. Globalization of the food system.

UNIT V

National Food, Nutrition and Health Policies-Plano faction and programs, Approaches and Strategies for improving nutritional status and health, Programmatic options-their advantages and demerits. feasibility, political support, available resources (human, financial, infra structural)..

TEXTBOOKS

1. Bamji ,M.S., Rao, P.N., Reddy, V.(Eds) (1996): Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt .Ltd., New Delhi.
2. Gopalan, C. and Kaur, S. (Eds) (1989): Women and Nutrition in India, Nutrition Foundation of India.

REFERENCES

1. Gopalan, C. (Ed) (1987): Combating Under nutrition–Basic Issues and Practical Approaches, Nutrition Foundation of India.

2. Achaya, K. T. (Ed) (1984): Interfaces between agriculture nutrition and food science, The United Nations University.

WEBLINKS

https://www.egyankosh.ac.in/bitstream/123456789/73129/1/Unit-14.pdfhttps://www.fssai.gov.in/upload/uploadfiles/files/Chapter1.pdf

http://www.eolss.net

http://niftem.t.ac.in

Minor stream II

MID 1 -BHSC - 207

FAMILY DYNAMICS

Credits:4 **Hours5**

Course Objectives:

To enable the students to:

1. To develop a scientific attitude towards behavioral patterns in individual, family and community life.
2. To familiarize with marriage and family life.

Course outcome:

1. Discuss the concept of family dynamics and Identify the macro level changes and its impact on Indian family.
2. Develop the familiarity with the marriage and its related issues and adjustments. Construct the alternate forms of family and identify the reasons and characteristics for their formation
3. Discuss the status, issues and interventions related to family and old age.

UNIT I

Introduction to family Dynamics: Family Dynamics–Meaning, Scope and Significance of family dynamics in contemporary society.

UNIT II

Marriage: Meaning, preparation, functions and types of marriage. Personality development in relation to marriage. Physical, mental health, emotional maturity in relation to marriage. Factors affecting marriage relationship – religion, socio economic status, careers. Role of counselling- Premarital & marital. Recent trends in marriage.

UNIT III

Family: Meaning, family as the basic social institution, characteristics of family, significance of family, Types, characteristics of family. Parenthood–duties, styles of parenting, child rearing techniques. Small family norm.

UNIT IV

Family crisis: Meaning, causes, types and consequences– Death, divorce, desertion, suicide, prolonged illness, imprisonment, unemployment, dowry, alcoholism, drug addiction, war separation, economic inflation and deflation.

UNIT V

Old Age – Meaning, physical and physiological changes, needs and adjustment of the aged. Problems of the aged- physical, psychological and social. Institution for the elderly. Place of aged in Indian society. Organisations dealing with issues related to Family Dynamics (in brief): International organizations – UNICEF, UNESCO, WHO. National organizations–NIPPCD, NCERT, National commission for Women.

RELATED EXPERIENCE

1. Visit to voluntary organization home/school for special children.
2. Visit to voluntary organization–old Age home
3.Visittovoluntary organization–Orphanage
4. Study on problems of old age.
5. Interactive sessions relating to family and family crisis.
6.VisittoSocialwelfareDepartment

TEXTBOOKS

1. Hurlock, E. B., (1995) :Developmental Psychology-A life span approach, 5th Edition, Mc Graw Hill Book Co.,New York.
2. Rajammal P. Devadas and Jaya N. Muthu, (1996): A textbook of Child Development, Macmillan, N. Delhi.
3. Suriakanthi A., (1997):Child Development – An Introduction, Kavitha Pubslishers.
4.Madan ,T .N. and Majumdas, D.N. (1986). An Introduction to Social Anthropology, National Publishing House.

REFERENCES

1. Nanda V.K.,(1998): Priniciples of Child Development, Anmol Publications Pvt .Ltd .,New Delhi.
2. BerkL .E.,(2004):Child Development, Pearson Longman New Delhi.
3. Kakar, Sudhir, (2012) The Inner world: A Psycho analytical Study of Childhood and Society in India .Oxford University Press, Oxford.

WEBLINKS

1. https://www.ncbi.nlm.nih.gov/books/NBK560487/#:~:text=Family%20dynamics%20refer%20to%20the,of%20relationship%20security%20or%20stress.
2. https://study.com/learn/lesson/family-dynamics-roles-examples.html
3. https://us.sagepub.com/sites/default/files/upm-assets/109149_book_item_109149.pdf
4. www.egyankosh.ac.in/bitstream/123456789/85606/1/Unit-7.pdf
5. https://ugcmoocs.inflibnet.ac.in/assets/uploads/1/262/8221/et/W5-L1-Family%20Dynamics%20-%20Introduction20041406060404232 3.pdf

MID 2 - BHSC - 208

APPLIED ART ON TEXTILES

Credits:4 **Hours: 5**

COURSE OBJECTIVES

1. To study about different traditional textile and crafts of India
2. To know the care and storage techniques of different traditional textile.
3. To study the socio-economic significance of traditional textile and its popularity in modern India.

COURSE OUTCOME

1. Identify the essentials of surface ornamentation.
2. Understand the design enlargement and reduction.
3. Demonstrate the ornamentation of textile fabrics.
4. Exhibit skills in hand embroidery and machine embroidery

UNIT I:

Study of Textile Crafts of India: with reference to history, production centers, techniques, designs, colours and products Woven Textiles -Benaras Brocades, Jamdanis and Baluchars of Bengal, Kani Shawls of Kashmir.

UNIT II:

Study of Textile Crafts of India: with reference to history, production centers, techniques, designs, colours and products Embroidered Textiles- Kanthas of Bengal, Kasuti of Karnataka, Phulkari of Punjab, Chikankari of Uttar Pradesh, Kashida of Kashmir, Kutch of Gujarat embroideries.

UNIT III

Study of Textile Crafts of India: with reference to history, production centers, techniques, designs, colours and products

UNIT IV

Painted and Printed textiles –Kalamkaris and Pochampalli of Andhra Pradesh, Dabuprinting of Rajasthan, Ajarakh prints of Gujarat. Dyed textiles–Bandhnis of Rajasthan and Gujarat, Ikats- Patola of Gujarat. Bandhas of Orissa.

UNIT V

Conservation of Traditional Textile Evolution and Socio- economic significance of Khadi, Handloom and Handicraft sector Sustenance of Traditional textile crafts

Text Books

1. Agarwal,O.P.,1977,Careand Presentation of Museum projects– II,NRL
2. Chattopadhaya, K.D.,1995, Handicrafts of India, Wiley Eastern m Limited, N Del
3. Das, Shukla,1992, Fabric Art- Heritage of India, Abhinav Publications, N Delhi
4. Marshall S G, Jackson H O, Stanley MS, Kefgen M & Specht T, 2004, Individuality in Clothing & Personal Appearance, 6th Edition, Pearson Education, USA.
5. Tortora, G. Phyllis, Understanding Textiles, McMillan Co. USA
6. Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi

References

1. Juracek, A. Judy,2000, Soft Surface, Thames & Hudson Ltd.
2. Milne D'Arcy Jean, 2006, Fabric Left Overs, Octopus Publishing Group Ltd
3. SingerMargo,2007, Textile Surface Decoration-Silk & Velvet, A & C Black Ltd
4. . Rastogi, D. and Chopra, S. (Ed) (2017) Textile science, India: Orient Black Swan Publishing Limited.

WEB LINKS

1. https://en.wikipedia.org/wiki/Textile_arts
2. https://study.com/academy/lesson/what-is-textile-art.html
3. https://mlsu.ac.in/econtents/5930_Traditional%20Indian%20textiles%20Manual.pdf
4. https://lotusarise.com/indian-handicrafts-upsc/
5. https://www.scribd.com/document/65619463/Kalamkari-Painted-Printed-Textile-of-India

MID 3 - BHSC - 209

FUNCTIONAL FOODS

Credits:4 **Hours5**

Course Objectives:

1. Learn the source functional foods
2. Understand the role functional foods and in health and diseases.
3. Aware of the national and international regulatory aspects of functional foods.

Course outcome:

Student should be able to:

1. define functional foods
2. understand the chemistry and physiological effects of FFN
3. understand the role of selected FFN in health promotion and disease prevention and treatment

UNIT I

Functional foods- Definition and history- functional foods, traditional foods, nutraceuticals-teleology, designer foods and pharma foods, history of functional foods, components of functional food, stages involved in development of functional foods.

UNIT II

Categorization of nutraceuticals-Classification-based on food source, mechanism of action and chemical nature isoprenoid, phenolic substances, fatty acid and structural lipids-terpenoids, saponin, tocotrienol, and simple terpenes, carbohydrates and amino acid-based derivatives, isoflavones.

UNIT III

Functional foods of microbial origin- functional foods of microbial origin-human gastrointestinal tracts and its microbiota, functions, probiotic and functions-lactobacillus and bifido bacterium, concepts of probiotics and prebiotics with examples role of probiotic in health and diseases, spirulina as bioactive component.

UNIT IV

Functional foods in health and diseases – Sources of functional foods - role of functional foods in health and management of diseases diabetes mellitus, hypertension, CVD, cancer. Concept of dietary supplements, phytochemicals, phytosterols, omega3 and 6 fatty acids, dietary fiber, role of non-essential nutrients as dietary supplements, FOSHU foods.

UNIT V

Regulatory aspect of functional foods- Regulatory aspects-international and national regulatory aspects of functional foods in India, ICMR guidelines for probiotics, development of biomarkers to indicate the efficacy of functional ingredients, research frontiers in the functional foods.

TEXTBOOKS

1. Bamji (2013), textbook of human nutrition, 3rd addition, oxford & IBH publication Co Pvt ltd. New Delhi.
2. Sri Lakshmi B (2015), nutrition Science,4th edition, new age International Pvt Ltd.
3. Bamji (2019), textbook of human nutrition, 4th edition, oxford & IBH publication Co Pvt ltd. New Delhi.
4. Sri Lakshmi B (2023),nutrition Science,8th edition, new age International Pvt Ltd.

REFERENCES

1. Web G.P (2016), Dietary Supplements and Functional Foods, Black well publishing house Ltd, New York.
2. Tamine. A(2015), probiotics Dairy Products, Black well publishing house Ltd, United Kingdom.
3. USFDA regulation on functional foods and nutraceuticals

WEB LINKS

1. https://foodinsight.org/wp-content/uploads/2011/08/Final-Functional-Foods-Backgrounder.pdf
2. https://krishi.icar.gov.in/jspui/bitstream/123456789/71744/1/FINAL-231- 250.pdf
3. *https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_ug/290*
4. *https://egyankosh.ac.in/bitstream/123456789/99636/1/Unit-2.pdf*
5. *https://www.google.com/url?sa=i&url=https%3A%2F%2Fegyankosh.ac.in%2Fhandle%2F123456789%2F99636&psig=AOvVaw1ZYVGl4_Sapqk5JJLZrFqn&ust=1756966212810000&source=images&cd=vfe&opi=89978449&ved=0CAQQn5wMahcKEwj49l3q-LuPAxUAAAAAHQAAAAAQBg*

MID 4 - BHSC - 210

TOURISM AND HOSPITALITY MANAGEMENT

Credits:4 **Hours:5**

Learning Objectives:

To enable the students to

1. To learn about basics of Tourism industry.
2. To understand about different sectors of Tourism industry.
3. To learn about Tour operations and Travel agency functions.

Course Outcome:

1. Will be able to understand basics of Tourism industry
2. To understand different sectors of Tourism industry
3. To learn the effective planning of Tour operations and Travel agency functions

UNIT I

Meaning, Significance and History of Tourism in India Tourism industry: Systems, components, infrastructure

Types of Tourism: Ecotourism, Heritage tourism, Medical tourism, Educational tourism etc.

UNIT II

Travel Agent: Types of travel agencies, Functions of travel agency, How to setup travel agency, sources of income for a Travel Agency

The tour operator: Types of tour operators, packages tour, guides and escorts.

Formalities and regulations for tourism (in brief): Passport, Visa, Health Regulations for International Travel, Customs Regulations, Emigration and Immigration, Taxes Paid by Travellers & Travel Insurance

Itinerary Planning: Meaning, components, resources for planning, calculation of tour cost

UNIT III

Hospitality Management: Meaning, Principles, Scope, Accountancy and Book Keeping

UNIT IV

Hospitality Institutions: Meaning & types, understanding the basic culinary and catering terminologies, Classification of Hotels, Hotel divisions & departments, Functions & personnel in Front Office Management & House Keeping,

UNIT V

Types of services offered in the hotel, Types of menu, Room setting, Table setting & different types of napkin folds.

TEXTBOOKS

1. Jagmohan Negi–Professional Hotel Management-3014.
2. Food & Beverage Service by Lillicrap, ELBS- 3015.

REFERENCES

1. Front of Operations by Tiwari, Oxford,3015.
2. Fundamentals of Tourism and Hotel Mgmtby Sudheer Andrews, 3014.

WEBLINKS

https://www.amity.edu/jaipur/pdf/aur-naac/tourism%20&%20hospitality%20industry%20in%20india.pdf

MID 5 - BHSC - 211

PROGRAMMES FOR RURAL AND URBAN DEVELOPMENT

Credits:4 **Hours 5**

UNIT– I

National Nutrition Policy - Direct interventions, Indirect Policy Instruments. History of planning in India - objectives and goals. The Eleventh Five Year Plan (2007-2012) with focus on health and nutrition. Food, Nutrition and Health security. National Health Mission.

UNIT– II

Programmes for agricultural development Food availability and factors affecting food availability and food consumption. Food distribution systems, food problems. Food policies - objectives, instruments, Food Corporation of India (FCI). Programmes related to agriculture - IRDP, IADP, HYVP. Agencies involved- Co-operatives, Commercial Banks, NABARD.

UNIT– III

Need and scope of employment generation. DWCRA, SHG's, NREGP, TRYSEM, Food for work program, JRY. Role of DRDA.

UNIT– IV

Health Programmes in India - National Tuberculosis Control Programme, National Filariasis Control Programme, Universal Immunization Programme, Pulse Polio Immunization Programme, National Leprosy Eradication Programme, National AIDS Control Programme, National Programmme for Control of Blindness, Iodine Deficiency Disorders Programme, Child Survival and Safe Motherhood Programme, National Goitre Control Programme, National Nutritional Anaemia Prophylaxis Programme.

National Nutrition programmes in India-Supplementary Nutrition Programme (SNP), Applied Nutrition Programme (ANP), ICDS ,Wheat Based Nutrition Programme (WNP).

State Nutrition Programmes–TINP, Chief Minister's Nutritious Noon Meal Programme, Rajiv Gandhi Breakfast Scheme.

UNIT– V

International agencies-FAO, WHO.

National agencies - NIN, CFTRI, ICMR, ICAR, National Nutrition Monitoring Bureau, Food and Nutrition Board, Nutrition Society of India, Central Social Welfare Board, Nutrition Foundation of India.

TEXTBOOKS

1. Park K, (2005): Park's Textbook of Preventive and Social Medicine, Banarsidas Bhanot Pub.,Jabalpur.
2. Sankaran S. (2002): Indian Economy - Problems, Policies and Development, Marghan Publications,Chennai.
3. Dutt R and Sundharam K. P. M.,(2004):Indian Economy, S. Chand and Sons.

REFERENCES

1. Ghosh. S, The feeding and care of infants and young children, Voluntary Health Association of India, N. Delhi.
2. Raul, R.K., (2003): Rural Development in India - Approaches and Applications, Serials Publications,N. Delhi.
3. Bamji M.S., Rao P.N., and Reddy V., (1996): Textbook of Human Nutrition, Oxford & IBH Pub.Co. New Delhi.

MID 6 - BHSC 212

ENTREPRENEURSHIP DEVELOPMENT

Credits:4 **Hours: 5**

UNIT- I

Entrepreneurship-Definition, characteristics of an entrepreneur, entrepreneur and enterprise, traits of a true entrepreneur. Types of entrepreneur, functions of entrepreneur, behavioral qualities required by an entrepreneur. Entrepreneurial Motivation- motivating factors, facilitating factors, achievement motivation.

UNIT- II

Entrepreneurial development training Need for training, objectives, methods and phases of EDP training, benefits of training. Institutional support for entrepreneurial developments - NSIC, SIDO, SISI, DIC, PIPDIC, TCO.

UNIT- III

Project - Meaning, identification, classification. Project formulation - Need, concept, significance, elements of project formulation, Programmed Evaluation and Review Technique (PERT), Critical Path Method (CPM). Break even analysis, Ratio Analysis. Preparation of a project report.

UNIT- IV

Financing - sources of finance, term loans, and lease finance, working capital, financial incentives. Financing procedures, financial ratios and their significance. Financial institutional support for entrepreneurs-commercial banks, IDBI, IFCI, NABARD, LIC, SIDBI.

Books of accounts - Concepts, applications, advantages and disadvantages of single entry and double entry system. Concepts of Journal, ledger, subsidiary books, cash book, Trial balance – rectification of errors. Trading account/ manufacturing account. Profit and loss account. Concepts of bills and receipts.

UNIT- V

Licensing and Registration. Business ethics. Government policies. Factories act.

TEXTBOOKS

1. Saravanavel P, (1991): Entrepreneurial Development - Principles, Polices and Programs, Ess Pee Kay Publishing House, Madras.
2. Khanka S.S.,(2007):Entrepreneurial Development ,S. Chand & Co.,New Delhi.

REFERENCES

1. Desai, V., (1996): Entrepreneurial Development, Volume I, II and III, Himalaya Publishing House, Bombay.
2. Murthy C.S.V.,(2006):Entrepreneurship Development, Himalaya Pub. House, Mumbai.
3. Hirsch D, Peters P. Michael, Shepherd A. Dean,(2007): Entrepreneurship, 6th edition, Tata Mc Graw Pub .Co. New Delhi.

SKILL ENHANCEMENT COURSES

SEC I- FOOD SAFETY AND QUALITY CONTROL

Credits– 3 **Hours-4**

Learning Objectives

To enable the students to get acquainted with:

Basics of food safety and quality control.

To identify common food adulterants and food additives.

Institutional food safety hazards, assessment of risk, and evaluation, quality control sensory evaluation methods

Course Outcomes

- To familiarize students to apply protocol for safe food handling techniques, water and waste management
- To understand the role of food packaging and the importance of Nutrition labeling.
- To analyse consequences of food poisoning and infection on the health of individuals
- To Understand the basic principles food preservation methods

UNIT I

1. Understanding basics of food safety and quality control.

UNIT II.

Observation and Identification of micro-organism in perishable foods and water.

UNIT III

Food Adulteration Tests

i. Cereal and cereal products

ii. Pulses

iii. Milk and milk products

iv. Fats and oils

v. Spices and condiments.

UNIT IV

To understand and enlist various food additives (preservatives, anti-oxidant,) in processed foods available in market.

UNIT V

To carry out sensory evaluation by Scoring methods. (Hedonic Scale)

Food labelling- Guidance on understanding of various aspects of Nutrition labelling.

Visit to FCI storehouses or Star hotels or any food processing industry to study the food safety measures taken.

TEXT BOOKS / REFERENCES

1. Srilakshmi B, (2005): Food Science, New Age International Publishers, New Delhi.
2. Manay, S. and Shadaksharamasamy, Food: Facts and Principles, New Age International.(P) Publishers, New Delhi.
3. Norman G. Marriott (1999), Principles of Food Sanitation, 4th ed.,Sanitation in Food Processing, John A. Troller, 1993. Academic Press
4. Carolyn Meggitt, Food Hygiene and Safety: A Handbook for Care Practitioners, Heinemann
5. A Consumer‟s Guide to Pesticides and Food Safety (http://ificinfo.health.org/brochure/cgfs&p.htm)
6. Bacterial and Mycotic Diseases (www.cdc.gov/ncidod/diseases/foodborn)
7. Bacterial Food-borne Illness (www.agen.ufl.edu?~foodsaf/co003.html)
8. fssai.gov.in › upload › uploadfiles manual of methods of analysis of foods food additives - fssai
9. Mathur, Pulkit.(2018). Food Safety and Quality Control, Publisher: Orient Black Swan.
10. Food Safety Quality Control and Management, Edited by Mohammed Kuddus, Syed Amir Ashraf, Pattanathu Rahman Copyright 2024, Published April5, 2024 by CRC Press
11. Food Safety and Quality control, Sarojini Verma, publisher: GEH Press, First Edition, 2023.
12. Food Safety and standards Act 2006, Rules 2011, Regulations, 2011, 10th Edition, ILBCO India, Indian Law Book Company, 2013.
13. Sarojini Verma(2025) Food Safety and Quality Control, GEH Press; 1st edition
14. Arthur Hill 1817-1894 Hassall (2016) Food: Its Adulterations, and the Methods for Their Detection, Creative Media Partners, LLC
15. Kirk, R.S and Sawyer, R. (1991): Pearson's Composition and Analysis ofFoods,Longman Scientific and Technical. 9th Edition, England.
16. FAO (1980): Manuals of Food Quality Control. 2-Additives Contaminants Techniques, Rome.
17. FSSAI, FSIS, EU and FAO website for updates

WEBLINKS

1. https://ncert.nic.in/textbook/pdf/lehe105.pdf
2. https://www.scribd.com/presentation/252269249/Chapter-1-Food-Quality-Control-Programme
3. fssai.gov.in/upload/upload files/files/comp-labelling.pdf
4. http://fssai.gov.in/cms/check adulteration.php

SEC II – EARLY CHILDHOOD CARE & EDUCATION

Credits– 3 **Hours-4**

Learning Objectives

1. To enable a sound foundation for physical and motor development of each child- as per each child's potential

2. To enable children for effective communication and foster both receptive and expressive language

3. To enhance development of pro-social skills, social competence and emotional well being

4. To enable a smooth transition from home to ECCE centre to formal schooling and to enhance scope for overall personality development

Course Outcomes

a) Apply their knowledge of child development to create supportive, healthy, respectful and challenging learning environments for each child.

b) Use with multi-factorial approach of effective assessment in planning and documenting children's ongoing growth and development.

c) Plan and design, implement, and critically analyze in-depth curriculum through use of academic disciplinary knowledge, to enhance learning outcomes for all children.

d. Conduct themselves as knowledgeable professionals in providing and advocating for quality care and education in a variety of settings, across the early childhood.

e) Understand the types and benefits of early play and analyse the strengths of play-way approach for the holistic development of children

UNIT I

Concept and Methods - Meaning of Early Childhood Care and education, Aims and Objectives of Early Childhood Cafe and education, Need and Importance of Early Childhood Care and education.

UNIT II

Building knowledge about local perspectives on childhood

a) Collect all words and terms related to young children and identify emerging orientation to children

b) Visit a locality and other public spaces to note all the facilities available for children for play, learning and skill building.

UNIT III

Collect local jingles, rhymes, games and stories related to young children in your locality

UNIT IV

a) Activities facilitating development in different domains Use of blocks, beads and strings, abacus and innovative methods to foster fine motor skills like grasping, and eye-hand coordination.

b) Use of print material like picture cards, magazines to make children recognize different objects, action words and build vocabulary

UNIT V

Prepare a list of innovative play activities and materials used by children in your neighbourhood/family.

Interact and discuss with members of your neighbourhood about the following:

(i) Innovative play activities (ii) Innovative play materials

References

1. Early Childhood - An introduction (2021) National Council of Educational Research and Training manual.

2. Stimulation activities for young children, Muralidharan.R. NCERT.

3. Education for all assessment early childhood care and education (2000) Kaul Venita, Emerging issues in ECE.

4. Early Childhood Care And Education Principles & Practices by J C Aggarwal S Gupta, Shipra Publications (2019) J. C. Aggarwal and S.

WEBLINKS

https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_ug/271

www.nipccd.nic.in/hn/publications-Early#gsc.tab=0

SEC III – APPAREL DESIGNING

Credits– 3 **Hours-4**

Learning Objectives:

1. Make students aware of the use and care of sewing machine.
2. Learn the drafting, placement and cutting of basic garments.
3. Develop skill in stitching the garments with good finishing in stipulated time.
4. Generate awareness regarding different fabrics available in the market.
5. This course will practically guide the students to sew basic seams and seam finishes. It also enables the students to be professionally customizing a range of styles of component parts in Apparel Industry.

COURSE OUTCOMES

1. Integrate the basic hand sewing techniques to produce finished samples.
2. Perform various component parts of the garments with help of Industrial sewing machineries.
3. Combine different garment components and ensure its quality.
4. Gains knowledge of application of elements and principles of design in clothing.
5. Implements Factors influencing design application for different age group, occasions and seasons.

UNIT I

Elements and principles of design – Understanding the fundamentals of design such as line, shape, color and texture and its application in apparel designing

UNIT II

Definition, terms and uses of 25 fabrics namely –

For Personal Clothing-Lawn, poplin, cambric, 2 x 2, organdy, voile, denim, drill, seer sucker, jute, *khadi* & other handloom fabrics.

Home Textiles-Casement, terrycloth, jacquard, cut pile, knitted, bonded, laminated, embossed, linen

Fashion Fabrics- Satin, tissue, crape, georgette, chiffon, knitted, knotted, braided, narrow fabrics, wrinkled, brasso, and suede

UNIT III

Personal clothing construction & stitching - Stitching of the following garment *Jhabla* and diaper, Bib, Bonnet for a new born

UNIT IV

Silhouettes and figure types-pear figure, hourglass figure, rectangular figure, wedge figure, overall roundness figure. Choosing the best dress for the figure types. Factors influencing design application for different age group, occasions and seasons.

UNIT V

Surface enrichment on fabrics – Applique, Tie and dye, Batik printing, Beads and Sequence

BOOKS:

1. Creative clothing Construction New York: McGraw hill Book Co., 1956 Bane A :
2. Ready to Wear Apparel Analysis, 2nd edition Prentices Hall, 1998 Brown Rice
3. How you look to dress St.Louis. McGraw Hill, 1969. Carson
4. Basic Processes & Clothing Construction. Doongaji S. &Deshpande R
5. The Sewing Machine by Rebekah Dorn, 2008 7.
6. Sekhri S., (2011) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi.

REFERENCES:

1. Designing Patterns A. E. Press Melberne, 1985. Campbell H. & Davies M.
2. Clothing for Moderns III and V Editions New York, McMillan. Ervin M.D. Knichen L.A. and Peters K
3. Singer sewing Book London: Hamlyn, 1972 Hultin J.C.
4. Performance of textile for testing New York: John Wiley & Sons, 1977. Lyle D.
5. Apparel Manufacturing TechnologyBy T. Karthik, P. Ganesan, D. Gopalakrishnan, 2017

WEBLINKS

1.https://espace.mmu.ac.uk/605900/2/Chapter%203%20Fabric%20properties%20and%20their%20characteristics_Symplectic.pdf

2. https://core.ac.uk/download/pdf/286360061.pdf

3. http://heecontent.upsdc.gov.in/Home.aspx

4. https://onlinecourses.swayam2.ac.in/cec21_hs14/preview

5.https://www.skillshare.com/browse/fashion-design

6. https://egyankosh.ac.in/bitstream/123456789/92811/1/Unit-2.pdf

7. http://egyankosh.ac.in/bitstream/123456789/100433/1/1unit-12.pdf.

MULTIDISCIPLINARY COURSES

MLDC I

HERBAL NUTRITION

Credit: 3 **Hours: 4**

Learning Outcomes:

Students will be able to

1. Gain knowledge on common herbs used as food, their botanical classification and culinary use
2. Acquire knowledge on herbs and their drug interactions, toxicity and herbal product regulations

Course Outcomes

1. Acquire more knowledge about the common herbs, their nutritional properties and their regulations
2. Gains more knowledge about the healing properties of common medicinal plants and their use in traditional health care systems
3. Utilize these herbs as food and supplements

UNIT I

Definition of herb, herbal Nutrition, Common herbs used in Indian Cuisine. Importance of medicinal plants –role in human health care–health and balanced diet.

UNIT II

Cultivation methods–Crop protection–Harvesting–Storage and Protection–Marketing and utilization-Export of medicinally important (General aspects). Tulsi, Alovera, Turmeric, curry leaves, black pepper, thyme, garlic, Giloy.

UNIT III

Nutritional content of common Indian herbs, Phenolic content, Carotenoids, minerals and essential oils. Significance of common herbs, culinary herbs, cooking methods of herbs – Basil, Cherril, Chimes, Cilantro, Dill, Mint, Oregano, Parsley, Rosemary, Sage, Tarrangon, Thyme, Lemongrass

UNIT IV

Nutritive and medicinal value of common vegetables and fruits – Bottle gourd, white ash gourd, plantain, bamboo shoot, bitter gourd, spinach, moringa leaves, amaranth. Papaya, Guava, Sapota, Orange, Mango, Banana, Lemon, Pomegranate.

UNIT V

Common herbal dietary supplements, possible side effects and drug interactions– Blackcohosh,Cranberry,Curcumin,Echinacea,Garlic,Ginkobiloba,Gingeng,Goldenseal,Greenteaextract,Kava-kava,Milkthistle,Sawpal,etto,St.John'swort,Valerian,Phrmacokineicsofherbalsupplements.

TEXT BOOKS:

1.Gokhale, S.S., C. K. Kokate and A. P. Purohit (1994) Pharmacognosy. Nirali Prakashan.Pune.

3.Faroogi, A. A., and B. S .Sreeramu (2004). Cultivation of Medicinal and Aromatic Crops. University Press (India) Pvt. Ltd., Hyderabad.

4.Harvesting, Curing and Uses. Forgotten Books.

5. Gokhale, S.S., C.K.Kokate and A.P. Purohit (1994) Pharmacognosy. NiraliPrakashan. Pune.

6. Faroogi, A.A., and B.S. Sreeramu (2004). Cultivation of Medicinal and Aromatic Crops.

7.University Press (India) Pvt. Ltd., Hyderabad.

8.Roby Jose Ciju (2015) 21 Culinary Herbs (All about Vegetables) Createspace Independent Publishing Platform

REFERENCES:

1. Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi,India,2002**.**
2. Herb Nutrient and drug interactions: Clinical implications and therapeutic strategies (2008) Mitchell Bebel Star grove Jonathan Treasure Dwight L. Mc Kee, Published by Elsevier-Health Sciences Division
3. Jill Norman (2002) Herbs and Spices, Dorling Kindersley Publishing, Incorporated.

WEBLINKS

1. Natural Medicines Comprehensive Database. Available at http://www. Natural database.com last accessed on April 2, 2013
2. https://www.aafp.org/pubs/afp/issues/2017/0715/p101.html

MLDC II

FUNDAMENTALS OF ADOLESCENT HEALTH

Credits: 3 **Hours: 4**

Learning Objectives

This paper will enable the students to get acquainted with the physical, mental and social health aspects of adolescents

Course Outcome

1. To understand sexual and reproductive health.
2. Problems of adolescents including nutrition, injuries and violence (including gender based violence), non-communicable diseases, mental health and substance misuse.
3. To create awareness about sex education.
4. Familiarize with national youth policy

UNIT I

Adolescents: Meaning, characteristics. Theories of risk, vulnerability, resilience and behavior change (in brief). Methods of adolescent study, Problems of Adolescents: Problems of adjustment in the environment; Early marriage, pregnancy & childbirth; Violence, Alcohol & drugs; Tobacco use, Eating disorders; Malnutrition- CED & obesity, Juvenile Delinquency, Stress, injuries & road accidents and the like.

UNIT II

Adolescent Health: Meaning, Ecological model for determining the adolescent health and development. Physical and physiological health: Changes in growth pattern, puberty. Anthropometric measurements related to adolescents- Height, Weight, BMI, WHR, WHTR, CED, interpretation of results. Clinical assessment, Common nutritional and psychological disorders& discomforts; Coping mechanisms of stress. Emotional wellbeing, Mental health Issues.

UNIT III

Social and Emotional behavior of adolescents, causes of emotional intensity, factors influencing emotional life, peer group interaction, sibling interaction, Morality in adolescents and factors influencing adolescent's personality.

UNIT IV

Sex education: Meaning, importance and types of sex education, transmission of HIV and other sexually transmitted diseases- causes and prevention.

UNIT V

Universal health coverage for adolescents: The WHO interventions. Rights of adolescents(National), Indian National Youth Policy.

TEXTBOOKS

1. Chaube, S. P.,(2002).Psychology of Adolescents in India, Concept Publishing Co.Ltd., New Delhi

REFERENCES:

1. Bhuvaneswari, K., Child & Adolescent Psychology (2011), CBS Publishers & Distributors Pvt. Ltd., Chennai.

WEBLINKS

1. *http://www.who.int/maternal_child_adolescent/topics/adolescence/second-decade/en/*
2. http://apps.who.int/iris/bitstream/10665/112750/1/WHO_FWC_MCA_14.05_eng.pdf?ua=1

MLDC III
SUSTAINABLE DEVELOPMENT & FOOD SECURITY

Credits:3 **Hours: 4**

Learning Objectives

1. To understand the environmental, social and economic dimensions of sustainability
2. To develop an action mindset for sustainable development
3. To equip students with necessary knowledge in identifying, conserving and managing world food resources to increase food security

Course outcome

1. How sustainability considerations can actually be embedded within an individual's and community's day to day activities
2. Analyze strategic goals of food security and nutrition, alongside the 2016 sustainable development agenda and global health
3. Examine issues of food security in the context of complex emergencies, fast urbanization, and dynamic changes in people's lifestyles

UNIT I

Introduction to Sustainable Development: Glimpse into History and Current practices– Introduction to SD-its importance, need, impact and implications; definition coined; evolution of SD perspectives (MDGs AND SDGs) over the years. Brief on 17 Sustainable Developmental Goals of 2016.

UNIT II

Ecosystem & Sustainability: Fundamentals of ecology-types of ecosystems & inter relationships, factors influencing sustainability of ecosystems, Introduction to sustainability & its factors, requirements for sustainability: food security and agriculture, sustainability conflicts, a conceptual framework for linking sustainability and sustainable development.

UNIT III

Dimensions to Sustainable Development- society, environment, culture and economy; current challenges - natural, political, socio-economic imbalance; sustainable development initiatives and policies of various countries: global, regional, national, local; needs of present and future generation-political, economic, environmental.

UNIT IV

Food security concept, types of food insecurity, poverty, hunger and mal nutrition. Inter-relationship between environment, climate and agricultural (arable agriculture and live

stocks) and non-agricultural (marine; fresh water; forests) food production; impact on food security. Adapting to changing climate and management of environment towards food security and sustainability.

UNIT V

Food distribution- The food supply chain (from producers to consumers)-harvesting, transportation, storage, marketing and equitable distribution; impact of changing environment and climate on equitable distribution of food. Changing dietary habits and its impact on food security, climate and environment. Economics and policy of food security; role of institutions (e.g., FAO, NABARD, FCI, NAFED, RRB, APMC)

TEXT BOOKS

1. Elliott,Jennifer.2012.AnIntroductiontoSustainableDevelopment.4thEd.Routledge,London.

2. Kerr, Julie. Introduction to energy and climate: Developing a sustainable environment.CRCPress,2017.

3. Food In security Atlas of Rural India (2001) MS Swaminathan Research Foundation and World Food Programme.

REFERENCES

1.Our Common Journey: A Transition Toward Sustainability. National Academy Press, Washington D.C.Soubbotina,T.P.2004.

2. Eddington, saduaman M, Clar M,ernnde, uillou M.,Jahn M.,ErdaL.,Mamo T.,

Van Bo N., Nobre C.A., Scholes R., Sharma R. and Wakhungu J. (2012). Achieving Food Security in the Face of Climate Change: Final Report from the Commission on Sustainable Agriculture and Climate Change. CGIAR Research Program on Climate Change, Agriculture and Food Security(CCAFS). Copenhagen, Denmark,

3. FAO, WFP and IFAD. 2012. The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition, Rome, FAO.

4. National Research Council (2012) A Sustainability Challenge: Food Security for All, Report of Two Workshops. Washington, DC: The National Academies Press.