

**COURSE DETAIL OF  
DEPARTMENT OF FOOD &  
NUTRITION  
FACULTY OF HOME SCIENCE  
SRI AGRASEN KANYA P.G  
COLLEGE,VARANASI**

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**DEPT.OF F&N**

# **HOME SCIENCE**

## **FOOD & NUTRITION TWO YEAR COURSE**

### **M.A./M.Sc. 1<sup>ST</sup> YEAR**

#### **1<sup>ST</sup> SEMESTER**

- 1) Paper I Applied Physiology**
- 2) Paper II Advance Nutrition**
- 3) Paper III Food science & Exprimental  
cookery**
- 4) Research Method & Statistics**

Name of Paper: Applied Physiology

Course Objective: This paper will enable students to:

Advance their understanding of some of the relevant issues and topics of human physiology.

Enable the students to understand the integrated function of all systems and the grounding of nutritional science in Physiology.

Understand alterations of structure and function in various organs and systems in disease conditions.

Course Outcome:

1. Understanding about the functioning of human biological systems
2. Knowledge of interrelationship between different organs with each other.
3. Deep understanding about organ specific diseases and their causing elements.
4. This paper provides home science students with an array of employment opportunities like Dietician in hospitals or health care centers, Nutrition Consultants/Nutritionist in food sectors, Food Technologists and Scientist in food industries, Counselors in health care organizations and others etc.

Text Book: 1. Jain, A.K.: Textbook of Physiology. Vol. 1 and II. Avichal Publishing Co., New Delhi.

2. Khurana, Indu (2005): Textbook of Medical Physiology, Elsevier India.

3. Venkatesh, D. (2009): Basics of Medical Physiology, Lippincott Williams & Wilkins. Baltimore.

4. Sircar, Sabyasachi (2016): Principles of Medical Physiology, 2/E, Thieme Publishers Delhi.

Reference Book: 1. Ganong, W.F. (1985): Review of Medical Physiology, 12th Edition, Lange Medical Publication.

2. Moran Campell E.J., Dickinson, C.J., Slater, J.D., Edwards, C.R.W. and Sikora, K. (1984): Clinical Physiology, 5 Edition, ELBS, Blackwell Scientific Publications.

3. Guyton, A.C. (1985): Function of the Human Body, 4th Edition, W.B. Sanders Company, Philadelphia.

4. Guyton, A.C. and Hall, J.B. (1996): Text Book of Medical Physiology, 9th Edition, W.B. Sanders Company, Prism Books (Pvt.) Ltd., Bangalore.

5. Wilson, K.J.W. and Waugh, A. (1996): Ross and Wilson Anatomy and Physiology in Health and Illness, 8th Edition, Churchill Livingstone.

6. McArdle, W.D., Katch, F.I. and Katch, V.L. (1996): Exercise Physiology. Energy, Nutrition and Human Performance, 4th Edition, Williams and Wilkins, Baltimore.

**Name of course:** M.A. I sem , Advanced Nutrition

**Course objective:** To provide students advanced background of nutrition principles and basic biochemistry of the human body and the role of nutrients involved.

**Course Outcome:**

1. The student should be able to assess and estimate the energy requirement of individual and groups.
2. The student should be able to measure the energy expenditure of individual and group.
3. The students understand the basic concepts of metabolism.
4. The student should be able to understand the role of basic nutrients in human health.
5. Students understand the role of various nutrients in prevention and cure of disease and ailments.

**Assessment methods:**

Class test, debate, class presentation, assignments, exams.

**Text Books:**

1. Text book of biochemistry by E.S. west, W.R. Todd, H.S. Mason and Van Bruggen.
2. Jeev Rasayan by Dr. Pratima Vyaas

**Reference Books:**

1. Harper's Biochemistry by R.K. Murray, D.K.Granner
2. Principles of Biochemistry by A.White, P.Handler, E.L. Smith,D.W.Stelton
3. Principles of Biochemistry by A.L. Lehlinger
4. Text Book of Biochemistry with Clinical correlations by T.M. Devlin

## **COURSE DETAILS**

**Name of the Department:** Department of Food and Nutrition

**Name of Course (PAPER):** M.A./ M.Sc. I Semester (PAPER III: Food Science and Experimental Cookery)

**Course Objectives (2 or 3 lines):** To provide scientific basis for understanding the nature of food and the principles of experimental methodologies as applied to food.

### **Course Outcome (Minimum five points)**

1. Ability to explain the chemistry underlying the properties of various food components.
2. Ability to discuss the major chemical reactions that occur during food processing and storage.
3. Ability to interpret statistical data as used in food science application.
4. Ability to apply principles from the different facets of Food Science and related disciplines to solve practical real-world problems.
5. Ability to apply Food Science knowledge to describe functions of ingredients in food.
6. Ability to modify recipe or formulations for specific purposes such as nutrient enhancement, quality improvement and ingredient substitution

### **Assessment Method (Ex. Quiz, Debate, Essay, Class Test, Project, Exam)**

- Students presentation
- Assignments
- Debate
- Class test
- Demonstration

### **Textbook:**

1. Food Science – B. Srilakshmi
2. Foods Facts and Principles - M Shakuntala Manay

### **Reference Books:**

1. Food Science – Potter N.N. and Hotchkiss J.H.
2. Food Science - Sumathi R. Mudambi
3. Food Science and Experimental Cookery – M. Swaminathan
4. Food Science - Charley H.

### **Revision / Remarks (Optional, if in last 5 years)**

None

Name of the Department- Food and Nutrition ,Home Science

Name of the Course- Research Methods and Statistics

Course Objective- To understand the significance of statistics and research methodology in Home Science.

Course Outcome-

1. To develop the capacity to understand the daily life issues and to study it thoroughly by research methodology.
2. To be able to follow the exact research technique step by step in assessment of daily issues.

Assessment methods-

Quiz,debate,essay,class test, project, exams.

Text books-

1. Social Research and Statistics- Ravindra Nath Mukherjee
2. Research Statistics in Psychology- D.N. Srivastava and Preeti Verma

Reference Book-

1. Research Methodology- H.K. Kapil

**M.A./M.Sc. 1<sup>ST</sup> YEAR**

**II SEMESTER**

- 1) Paper I Advances in food  
microbiology**
- 2) Paper II Advanced Nutritional  
biochemistry**
- 3) Paper III Public Nutrition**
- 4) Paper IV Statistics & Computer  
Application**

## **COURSE DETAILS**

**Name of the Department:** Department of Food and Nutrition

**Name of Course (PAPER):** M.A./ M.Sc. II Semester (PAPER I : Advances in Food Microbiology)

**Course Objectives (2 or 3 lines):** To gain proper knowledge of role of microorganisms in humans and environment.

### **Course Outcome (Minimum five points)**

1. Ability to explain spoilage and deterioration mechanisms in food.
2. Ability to discuss role of beneficial microorganisms in food and their use in food preparation and preservation.
3. Ability to correctly use appropriate laboratory techniques to enumerate, isolate and identify microorganisms in food.
4. Ability to locate and interpret government rules and regulations regarding sale and manufacture of food products.
5. Ability to eradicate and prevent food borne diseases.

### **Assessment Method (Ex. Quiz, Debate, Essay, Class Test, Project, Exam)**

- Presentation
- Assignment
- Class test

### **Textbook:**

1. Food Microbiology - W.C. Frazier
2. Food Microbiology – A. Bohra

### **Reference Books:**

1. Microbiology - Pelezar M.J. and Reid R.D.
2. Fundamentals of Food Science Technology : Processing and Preservation – N.K. Jain
3. Food Microbiology - M.R. Adams
4. Food Microbiology – M.O. Moss

### **Revision / Remarks (Optional, if in last 5 years)**

1. One topic added in Unit I: Introduction to important microorganisms in food, their primary sources in foods, morphology, cultural characteristics and biochemical activities

**Name of the course:** M.A./ M.Sc II sem Advanced Nutritional Biochemistry

**Course objective:** To provide the deep knowledge of the physiological and metabolic role of various nutrients and their interaction in human nutrition.

**Course outcome:**

1. The student is able to understand the importance and cycles of biomolecules.
2. The students understand importance of intermediary metabolism in various metabolic disorders.
3. The students understand importance of genetics in human nutrition.
4. The students understand the role of hormones and their action in metabolic process of human beings.
5. The students understand the application of above knowledge in the treatment and cure of various metabolic and life style related problems.

**Assessment methods:**

Class test, debate, class presentation, assignments, exams.

**Text Books:**

1. Text book of biochemistry by E.S. west, W.R. Todd, H.S. Mason and Van Bruggen.
2. Biochemistry by L. Stryer.

**Reference Books:**

1. Harper's Biochemistry by R.K. Murray, D.K. Granner
2. Principles of Biochemistry by A. White, P. Handler, E.L. Smith, D.W. Stelton
3. Principles of Biochemistry by A.L. Lehninger
4. Text Book of Biochemistry with Clinical correlations by T.M. Devlin

Remarks

Unit 7 was omitted due to repetition.

## **COURSE DETAILS**

Name of the Department: Food & Nutrition

Name of the Course (Paper): M.A/M.Sc II<sup>nd</sup>sem, Paper III  
(Public Nutrition)

Course Objective: (2 or 3 Lines)

1. Relationship between health & public Nutrition, Primary health care of community, population Dynamics, Nutrition Status, Nutritional Problem, National polices Plan and action of Programmes, Food & Nutrition security approaches, Programme Design, Planning, implement and evolution etc.

Course Outcome: (Minimum 5 points)

1. Student can play good role as a public nutritionist in national Health care Delivery system.
2. Students can solve nutrition related problem by assessing nutritional and health status of the community.
3. Can help community by detecting macro & Micro nutritional deficiency and how to protect this deficiency.
4. Can improve community health & Nutritional status by designing, implementing and evaluating Nutrition education programme.
5. Can improve Nutrition for family and community as they have knowledge of food & Nutrition security.

Assessment Method: (Ex. Quiz, Debate, Essay, Class Test, Project, Exams...)

Students assess by-

- Class test
- Quiz programme
- competition on low cost, low fat recipes.
- Field survey by assessment methods.
- Theory & Practical Assignments.
- Final Exam

Text Book:

1. Dietetics – By B. Srilakshami
2. By Park & Park – Preventive & Social medicine.
3. Sampurna ahaar and poshan science by- Dr. Anita Singh

Reference Book:

1. Nutrition Value – By C. Gopalan.
2. Essential of Food & Nutrition Vol I & II by M. Swami Nathan
3. Human Nutrition – B. Sri Lakshmi
4. Low cost recipies – By. Dr. Anita Singh

Revision/Remarks: (Optional, if in last 5 years)

New Topic

Food & Nutrition Security

Food Production access, Distribution, Loss and consumption, Food security, socio, cultural aspects and dietary pattern.

## **COURSE DETAILS**

Name of the Department- Food and Nutrition, Home Science

Name of the Course- Statistics and Computer Application

Course Objective-

1. To create computer awareness among students.
2. To develop skill for using the statistical techniques with computers.

Assessment methods-

Quiz, debate, essay, class test, project, exams

Text Books-

1. Research Statistics- D.N. Srivastava and Preeti Verma
2. Sankhyiki tatha computer prayog- Dr. Anita Singh

Reference Books-

1. Experimental Design in Psychological Research- Edwards



**M.A./M.Sc. 2<sup>nd</sup> YEAR**

**III SEMESTER**

- 1) Paper I Assessment of nutritional status**
- 2) Paper II Maternal and Child Nutrition**
- 3) Paper III Geriatric Nutrition**
- 4) Paper IV Problems in Human Nutrition**

## Course Details

**Name of the Department-** Home Science (Food and Nutrition).M.A./M.Sc.

**Name of the course(Paper)-** Assessment of Nutritional Status(3<sup>rd</sup> semester 1<sup>st</sup> paper)

**Course Objective-** Orient the students with all the important state-of the-art methodologies applied in nutritional assessment and surveillance of human groups. Develop specific skills to apply the most widely used methods.

### Course Outcome-

- 1- Students can get knowledge for improving the quality of life.
- 2- They can use all the assessment techniques and tools in field to know the nutritional status.
- 3- They are able to set nutritional surveillance system in nutrition related field programme.
- 4- Can work as trainer for fitness.
- 5- Can work as Nutritionist/ diet canceller in Hospital and many other places.
- 6- Placement for lab-assistant and field workwr for nutritional assessment.

### Assessment Method-

- Classroom teaching by students on specific topics through O.H.P.
- Debates.
- Class tests.
- Project Work.
- Final Exams.

### Text Book-

- 1- Nutrition Science by B. Srilaxmi (in English version)
- 2- Preventive and Social Medicine by Park

### Reference Book-

- 1- Nutrition Monitoring and Assessment by T.Gopaldas and SEsahadri.
- 2- Through Internet.

### Revision/remarks-

No changes in this paper.

## **COURSE DETAILS**

Name of the Department: Food & Nutrition.

Name of the Course (Paper): M.A/M.Sc III<sup>rd</sup> Sem. Paper II  
Material and Child Nutrition

Course Objective: (2 or 3 Lines)

1. To understand physiological changes in pregnancy location, can get acquainted with growth and development changes from conception till adolescence and understand the inter-relationship between nutrition and growth.

Course Outcome: (Minimum 5 points)

1. Can help pregnant & lactating mother in the community.
2. Can give guidance to lactating, pregnant and adolescent girls for aids.
3. They can improve the health and nutritional status of the society by providing nutrition education.
4. They can check population growth by providing knowledge of family planning.
5. They can educate society to prevent malnutrition in mother and children.

Assessment Method: (Ex. Quiz. Debate, Essay, Class Test, Project, Exams....)

Students Assess by

- Class Test
- Debates
- Field Survey
- Assignments
- Practical Assignments
- Nutrition Education Packages, Models, Puppet Stories & Final Exam.

Text Book:

1. Preventive & Social Medicine –by- park & Park (New edition)
2. Dietetics – By B. Sri Lakshmi (New edition)
3. Low cost recipes – by Dr. Anita Singh.

Reference Book: 1

1. Human Nutrition – by Davidson & Passmore

2. Essential of Food & Nutrition – by- M.Swaminathan
3. Human Nutrition – B. Srilakshmi
4. Nutritive Value – By – C. Gopalan.

Revision/ Remarks: (Optional, if in last 5 years)

NO. Change

Name of Paper: Geriatric Nutrition

Course Objective: This paper will enable students to:

Familiarize the students with the multifaceted aspects of ageing.

- Make the students competent for nutritional and health care of the elderly.
- Course Outcome: The course provides professionally competent manpower for

1. Nutritional requirement of older adults.
2. Nutritional supplements for older adults as per recommended dietary allowance.
3. Understanding of human aging and the interrelationships with nutrition.
4. Deep understanding of human aging associated diseases and its prevention and management.
5. This paper provides home science students with an array of employment opportunities like Dietician in hospitals or health care centers, Counselors in health care organizations/old age home, Entrepreneurs in the field of old age care and others etc.

Text Book:

S. Irudaya Rajan, Gayathri Balagopal (2017): Elderly Care in India: Societal and State• Responses, Springer Nature, Singapore.

Tattwamasi Paltasingh, Renu Tyagi (2015):Caring for the Elderly: Social Gerontology in the• Indian Context, SAGE Publications, India

. Reference Book:

Ronni Chernoff (2006): Geriatric Nutrition: The Health Professional's Handbook, Jones• & Bartlett Publisher, London.

Kumar, V. (1996): Aging - Indian Perspective and Global Scenario. Proceedings of• International Symposium of Gerontology and Seventh Conference of the Association of Gerontology (India).

Bagchi, K. • & Puri, S. (Ed) (1999): Diet and Aging - Exploring Some Facets. Soc. for Gerontological Research, New Delhi and Help Age India, New Delhi.

## **COURSE DETAILS**

**Name of the Department:** Department of Food and Nutrition

**Name of Course (PAPER):** M.A./ M.Sc. III Semester (PAPER IV: Problems in Human Nutrition)

**Course Objectives (2 or 3 lines):** To provide an understanding of nutritional problems or nutrition related diseases prevalent among different groups of population. To know the biochemical and clinical manifestations, preventive and therapeutic measures of these problems / diseases.

### **Course Outcome (Minimum five points)**

1. Ability to apply knowledge of the role of nutrition and healthy eating for disease prevention and wellbeing.
2. Ability to develop effective strategies to engage populations in promotion of nutritional wellbeing.
3. Ability to apply critical thinking skills to solve nutritional problems.
4. Ability to become dietitian i.e. nutritional professional.
5. Ability to educate others about holistic nutrition, lifestyle, wellness and healthy living.

### **Assessment Method (Ex. Quiz, Debate, Essay, Class Test, Project, Exam)**

- Presentation
- Debate
- Class test
- Assignment
- Case study

### **Textbook:**

1. Textbook of Human Nutrition - Bamji, Rao & Reddy
2. A Textbook of Foods, Nutrition and Dietetics – M. Raheena Begum

### **Reference Books:**

1. Nutrition and Dietetics - Shubhangini A. Joshi
2. Krause's Food and Nutrition Therapy – L. Kathleen Mahan
3. Food and Nutrition – M. Swaminathan

### **Revision / Remarks (Optional, if in last 5 years)**

None

**M.A./M.Sc. 2<sup>nd</sup> YEAR**

**IV<sup>th</sup> SEMESTER**

- 1) Paper I Clinical & Therapeutic  
Nutrition**
- 2) Paper II Nutrition for Health &  
Fitness**
- 3) Paper III Improving Health &  
Nutrition IEC Approach**
- 4) Paper IV Project work / Dissertaion**

## **COURSE DETAILS**

**Name of the Department:** Department of Food and Nutrition

**Name of Course (PAPER):** M.A./ M.Sc. IV Semester (PAPER I: Clinical and Therapeutic Nutrition)

**Course Objectives (2 or 3 lines):** To be able to provide appropriate nutritional care for prevention and treatment of various diseases.

### **Course Outcome (Minimum five points)**

1. Ability to demonstrate counseling and education methods to facilitate behaviour change and enhance wellness
2. Ability to assess nutritional status of any living being
3. Ability to do nutritional screening with authentic lab techniques and tools.
4. Ability to assess population needs, assets and capacity for nutrition education.
5. Ability to become dietitian i.e. nutritional professionals.
6. Ability to apply lifestyle and nutritional assessment techniques to assist clients in understanding how they perceive and relate to food as part of their lives.

### **Assessment Method (Ex. Quiz, Debate, Essay, Class Test, Project, Exam)**

- Presentation
- Class test
- Assignment
- Debate
- Case study

### **Textbook:**

1. Dietetics – B. Srilakshmi
2. Park's Textbook of Preventive and Social Medicine – K. Park

### **Reference Books:**

1. Clinical Dietetics and Nutrition – F.P. Antia
2. Nutrition and Diet Therapy – S.R. Williams
3. Normal and Therapeutic Nutrition - Corine H. Robinson

### **Revision / Remarks (Optional, if in last 5 years)**

1. One topic was added in Unit I - Newer trends in delivery of nutritional care and dietary counselling.
2. One topic was added in unit IV - Inborn errors of metabolism.

**Name of course:** M.A./ M.Sc IV sem Nutrition for Health and Fitness

**Course Objective:** To understand the components of health and fitness and the role of nutrients in improving and maintaining it.

**Course outcome:**

1. The student is able to understand nutritional and dietary guidelines to attain health and fitness.
2. The student is able to develop the ability to evaluate fitness and wellbeing.
3. The student is able to understand the importance of nutritional management for gaining fitness of sports personnels.
4. The students understand about the physical and mental fitness in the field of sports and athletics.
5. The students understand about ayurveda,yoga,meditation and traditional diets in the field of health and fitness.

**Assessment methods:**

Class test, debates, quiz competitions, practical assignments

**Text Books:**

1. Dietetics by B. Srilakshmi
2. Human Nutrition by Shubhangi A. Joshi

**Reference Books:**

1. Preventive and Social Medicine by K. Park
2. Human Nutrition by David and Passmore
3. Understanding Nutrition by E.N. Whitney and S.R.Rolfes.
4. Nutrition in Exercise and Sports by Ira Wolinsky.

## Course Details

**Name of the Department-** Home Science (Food and Nutrition). M.A./M.Sc.

**Name of the course(Paper)-** Improving Health and Nutrition : IEC Approaches (4<sup>th</sup> semester 3<sup>rd</sup> paper).

**Course Objective –** Develop understanding regarding the vital aspects of communication and various Audio and Visual Media/Mass media and their use in nutrition and health education. Develop skills to plan and use of IEC.

## Course Outcome –

- 1- Students can get knowledge about the extension and communication techniques.
- 2- Can successfully develop and implement the nutrition related programmes in rural and urban areas
- 3- Can aware the population through **Nukkar Natak** in fields.
- 4- Can do Government jobs in mass communication.
- 5- Can develop their NGOs.
- 6- Can work as programme manager in different sectors(Govt./Pvt.)

## Assessment Methods-

- Field visits and cross testing of field visits.
- Debates.
- Verbal and non-verbal presentations.
- Class tests.
- Project works.
- Final exams.

## Text Book-

- 1- Prasar Siksha by Dr. Vrinda Singh (in Hindi version)
- 2- Jan Sanchar by Radhe Shyam Sharma (in Hindi version)

## Reference Book-

- 1- Mass Communication in India by Keval J. Kumar (in English version)
- 2- Prasar Siksha by Geeta Pushp Sha, Sheela Sha (in Hindi Vversion)
- 3- Bharat me Jan Sanchar ka Itihas by Dr. Amar Bahadur Singh (in Hindi version)
- 4- Jan Sanchar Kal aur Aaz by Dr. Sukti Nath Jha (in Hindi version)

## Revision/remarks-

No changes in this paper.

## COURSE DETAILS

Name of the Department- Food and Nutrition, Home Science

Name of the Course- Project Work

Course Objective-

The course is for the partial fulfillment of the masters degree in Home Science.

The objective is to give knowledge and information about the facts which are related to our society and to gain new innovation.

Course Outcome-

1. Students shall be able to develop new thoughts and new vision.
2. Students shall develop a scientific approach towards research writing.
3. Students shall be able to develop their creative faculties.
4. Students are able to understand society better during conducting survey.
5. Students get an understanding of proper research methodology.

Assessment Methods-

Presentation, viva-voce

Text Books-

Related to the topic selected.

Reference Books-

1. Indian Journal of Preventive and Social Medicine
2. Indian Journal of Community Nutrition
3. Asian Journal of Home Science
4. Asian Journal of Food Science and other journals related to the topic.