Department of Higher Education, Govt. of M.P.
Post Graduate Semester wise Syllabus
is recommended by Central Board of Studies and approved by the Governor of M.P.

Session 2010-2011

Class / वर्ग: M.Sc. (H.Sc.)
Semester / सेमेस्टर: IV
Subject / विषय: Food and Nutrition
Title of Subject Group: Health and Fitness

Paper No. / प्रश्न पत्र: 1
Compulsory / आवश्यक / Optional / वैकल्पिक अनुशासन: Compulsory
Max. Marks / सीधे मार्क्स: 60

Objectives
(1) Understand the components of health and fitness and the role of nutrition in these.
(2) Make nutritional, dietary and physical recommendations to achieve fitness and well-being.
(3) Develop ability to evaluate fitness and well being.

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Body Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Methods</td>
</tr>
<tr>
<td>(a)</td>
<td>Chemical analysis</td>
</tr>
<tr>
<td>(b)</td>
<td>Nutritional anthropometry</td>
</tr>
<tr>
<td>(c)</td>
<td>Skin fold thickness</td>
</tr>
<tr>
<td>(d)</td>
<td>Body density</td>
</tr>
<tr>
<td>(e)</td>
<td>Dilution Technique</td>
</tr>
<tr>
<td>(f)</td>
<td>24K Analysis</td>
</tr>
<tr>
<td>(g)</td>
<td>Other methods: Concept</td>
</tr>
<tr>
<td>(2)</td>
<td>Compositional changes concept</td>
</tr>
<tr>
<td>(a)</td>
<td>Human growth development</td>
</tr>
<tr>
<td>(b)</td>
<td>Material weight gain, Distribution composition</td>
</tr>
<tr>
<td>(c)</td>
<td>Compositional changes between birth and maturity</td>
</tr>
<tr>
<td>(d)</td>
<td>Compositional changes with weight changes: Physical activity, Obesity</td>
</tr>
</tbody>
</table>

(C) Holistic approach to the management of fitness and health: Nutrition, Exercise, Physical fitness and health inter-relationship
(a) Energy input and output
(b) Diet and Exercise

Unit 2
(A) Effect of specific nutrients on work performance and physical fitness: Shifts in carbohydrate and fat metabolism, utilization of fat stores during nutrition in sports, Sports specific requirements, Diet manipulation, Pre-game and Post game meals, Water electrolyte losses and their replenishment during exercise and sports events, effects of dehydration, importance of sports drinks.
(B) Diet for persons with high energy requirements stress and starvation.

| Unit-3 | (a) Nutritional regulation of gene expression.  
|        | (b) Inborn errors of metabolism: Sickle cell Anaemia, Thalassaemia, Cystinuria, Phenylketonuria, Hereditary Lactose intolerance, crout. |
| Unit-4 | (A) Defining nutrition goals/guidelines appropriate to health, fitness and prevention and management of Chronic degenerative disease diabetes mellitus CV disorders, bone, health and cancer.  
|        | (B) Non-nutritive food components with potential health effects: Polyphenols, tannis, phytate, phytoestrogens. Cyanogenic compounds, lectins and saponins |
| Unit-5 | (A) Nutrition and exercise regimes for pre and post natal fitness.  
|        | (B) Alternative systems for health and fitness like ayurveda yoga, meditation, vegetarianism and traditional diet.  
|        | (C) Nutrition Management in special conditions: Space travel, high altitudes, low temperatures submarines. |

**Note**

**Suggested Readings:**
4. World Reviews of Nutrition and Dietetics.
7. Indian Council of Medical Research. Nutritive Value of Indian Foods Latest
Department of Higher Education, Govt. of M.P.
Post Graduate Semester wise Syllabus
as recommended by Central Board of Studies and approved by the Governor of M.P.

Sesnon 2010-2011

Class / कक्षा: M.Sc. (H.Sc.)
Semester / सेमेस्टर: IV
Subject / विषय: Food and Nutrition
Title of Subject Group: Clinical & Therapeutic Nutrition
Paper No. / प्रमाण पत्र क्रमांक: II
Compulsory / अनिवार्य या Optional / वैकल्पिक अनिवार्य: Compulsory
Max. Marks अधिकतम अंक: 50

Particulars / विवरण

Objectives
(1) Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient’s need.
(2) Know the effect of various diseases on nutritional requirement and nutritional status.
(3) Be able to recommend and provide appropriate nutritional care for preventions and treatment of various diseases.
(4) Orient the students with all the important state of art methodology applied in Nutritional assessment and surveillance of human groups.
(5) Develop specific skills to apply the most widely used methods

<table>
<thead>
<tr>
<th>Unit-1</th>
<th>(A) Diseases of liver exocrine pancreas and biliary system: Physiology Etiology, Pathogenesis, Symptoms and Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2) Liver diseases</td>
</tr>
<tr>
<td></td>
<td>(a) Cirrhosis</td>
</tr>
<tr>
<td></td>
<td>(b) Viral hepatitis</td>
</tr>
<tr>
<td></td>
<td>(c) Hepatic corona</td>
</tr>
<tr>
<td></td>
<td>(d) Wilson’s disease</td>
</tr>
<tr>
<td></td>
<td>(3) Disorder related to gall bladder</td>
</tr>
<tr>
<td></td>
<td>(a) Cholecystitis</td>
</tr>
<tr>
<td></td>
<td>(b) Gall stones</td>
</tr>
<tr>
<td></td>
<td>(4) Disorders related to pancreas</td>
</tr>
<tr>
<td></td>
<td>(a) Pancreas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit-2</th>
<th>A) Nutritional care in Cardio-vascular disorders.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Hypertension-</td>
</tr>
<tr>
<td></td>
<td>a) Definition.</td>
</tr>
<tr>
<td></td>
<td>b) Criterion</td>
</tr>
<tr>
<td></td>
<td>c) Types</td>
</tr>
<tr>
<td></td>
<td>d) Causes</td>
</tr>
<tr>
<td></td>
<td>e) Nutritional Management</td>
</tr>
<tr>
<td></td>
<td>f) Drugs.</td>
</tr>
<tr>
<td></td>
<td>2. Hyperlipidemia</td>
</tr>
<tr>
<td></td>
<td>a) Lipo- Proteins and their metabolism</td>
</tr>
</tbody>
</table>
(c) Colon surgery  
(d) Tonsil surgery  
(e) Oesagus surgery  
(f) Burns  
(1) Fluid and electrolyte replacement  
(2) Nutritional care  
(3) Rehabilitation  
(C) Cancer  
(1) Dietary factors and cancer causation  
(2) Cancer treatment: Radio therapy, surgery and chemotherapy  
(3) Alternative or complemenatry diets  
(4) Prevention  
D) Latest researches and concepts in management of various life style problems.

Note: नोट

Practical:  
अधिकार अंक / Max.Marks : 50

1. Planning calculation and preparation of diets mentioned in theory.  
2. Interpretation of patient data and diagnostic tests and drawing up of patient diet prescription using a case study approach  
3. Follow up acceptability of diet prescription, compliance, discharge diet plan,  
4. Preparation of diet counseling aids for common disorders.  
5. Spotting.

Suggested Readings:  
2. Nutrition in Health and Disease - Anderson  
4. Basic Nutrition and Diet Therapy - William 10/e  
5. Nutrition and Diet Therapy - William 10/e  
6. Food Nutrition and Dietetics  
7. Nutrition and Diet Therapy - Stanfield  
8. Modern Nutrition in Health and Disease Robert S. Good hart  
9. Nutritional Principles and Clinical Practices M. Hunt and James  
10. Nutrition in Critical Care - Zaroga  
12. Dietetics - Shrilaxami  
13. Nutrition and Dietetics - Shubhangini Joshi  
14. Human Nutrition and Dietetics - Davidson Passmore  
15. Clinical Dietetics and Nutritional F. P. Anita  
16. Textbook of Nutrition and Dietetics - Kumud Khanna Etal  
<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Unit-1** | (a) **Pulses and Legumes:** Classification, composition, denaturation non-enzymatic browning Functional properties of whole pulses and legumes germination and sprouting.  
(b) **Leavened Products:** Leavening agents, Biologically leavened and chemically leavened products. Fermentation process and fermented products. |
| **Unit-2** | (a) **Milk and Milk Products:** Composition, Physical and functional properties. Denaturation, effects of processing and storage and Dairy Products: Cultured milk, youghurt, butter; whey cheese concentrated and dried products Frozen desserts, dairy product substitute. |
| **Unit-3** | (a) **Spices and Condiments:** Composition, Flavouring extracts natural and synthetic  
(b) **Eggs:** Structure and composition. Changes during storage. Functional properties of eggs, use in cookery. Egg Processing: Low Cholesterol egg substitutes. |
| **Unit-4** | (a) **Fats, Oils and Related Products:** Nuts and Oils seeds, Sources, Composition, effects of composition on fat properties. Functional properties of fat and uses in food preparations. Fat substitutes Fat deterioration and antioxidants.  
| **Unit-5** | **II Biotechnology in Food:**  
- Algae as food spirulina  
- Organic food  
- Nutraceuticals |

**Note:**

Practical:  
Prepare one recipe for each given practical below and identify the functional properties of the foods given below.

1. **Egg:** Emulsion, thickening, binding, coagulation, coating, Foaming of egg white.  
2. **Pulses-** Germination sprouting.  
3. **Colloidal system of foods-** Formation of Sol, gel emulsion.
4. **Leavening agents**: Use of Leavening agents in cookery. Fermentation and fermented products.

5. **Fat and Oils**: Melting point and smoking point. Permanent and semi permanent emulsions, fat absorption and its measurement.

6. **Milks and Milk Products**: Scalding of milk, prepatiation of curd, paneer, khoa, cheese, butter and fermented milk.

Suggested Readings:
1. Food Science- Shri Laxmi.
2. Food Science and Principles- SManey.
3. Food Science- Halen Charlies.
4. Food Prepration- Peckham.
5. Food Science- Niemann Porter.
7. Introductory food- Bernian Hughes.
13. Experimental Cookery – Palmer
### Course Details

**Department of Higher Education, Govt. of M.P.**

**Post Graduate Semester wise Syllabus**

as recommended by Central Board of Studies and approved by the Governor of M.P.

Class / कक्षा: M.Sc. (H.Sc.)

Semester / सेमेस्टर: IV

Subject / विषय: Food and Nutrition

Title of Subject Group: Nutrition and Health of Women, Child and Elderly

**Paper No. / प्रत्यय क्रमांक:** IV

Compulsory / अनिवार्य या Optional / वैकल्पिक अनिवार्य:** Optional (A)

Max. Marks अधिकतम अंक: 50

### Syllabus

<table>
<thead>
<tr>
<th>Unit</th>
<th>Maternal Health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Disease pattern and Reproductive health</td>
</tr>
<tr>
<td></td>
<td>(b) Women-pregnancy and lactation</td>
</tr>
<tr>
<td></td>
<td>(c) Safe Motherhood</td>
</tr>
<tr>
<td></td>
<td>(d) Care of at-risk mothers</td>
</tr>
<tr>
<td></td>
<td>(e) Health seeking behaviour</td>
</tr>
<tr>
<td></td>
<td>(f) Women and AIDS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Issues related to Child Nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Infant Physiology and pre-term and low birth weight infants- Implication for feeding and management.</td>
</tr>
<tr>
<td></td>
<td>(b) Growth and development during infancy, childhood and adolescence.</td>
</tr>
<tr>
<td></td>
<td>(c) Feeding of infants and children and dietary management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Issues related to Elderly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) The ageing process Physiological, biochemical and body composition changes.</td>
</tr>
<tr>
<td></td>
<td>(b) Theories of ageing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Socio Psychological aspects of ageing especially problems of elderly women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Nutritional requirement of elderly and dietary management to meet nutritional needs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Chronic degenerative diseases and nutritional problems of elderly their etiopathogenesis, management, prevention and control.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Policies and programmes of government and NGO sector pertaining to the Elderly.</td>
</tr>
</tbody>
</table>

### Note

**Suggested Readings:**

i. Census report, Government of India and Govt. of Madiya Pradesh.

ii. NFHS Reports, Govt. of India.

iii. UNICEF- States of the worlds children

iv. International child health; A digest of Current information.

v. Textbook of Nutrition and Dieterics, Kumud Kanna

viii. Nutrition in children, developing country concerns, H.P.S. Sachdev, Panna Choudhary
ix. National profile on women, health and development, Sarla Gopalan, Mira Shiva, Voluntary Health Association of India and WHO.
Department of Higher Education, Govt. of M.P.
Post Graduate Semester wise Syllabus
as recommended by Central Board of Studies and approved by the Governor of M.P.

Sesn 2010-2011

Class / कक्षा: M.Sc. (Home Science)
Semester / सेमेस्टर: IV
Subject / विषय: Food & Nutrition
Title of Subject Group / विषय समूह का शीर्षक: Mass Communication
Paper No. / प्रश्नावली क्रमांक: IV
Compulsory / आवश्यक / इनियल अभ्यास / Optional / वैकल्पिक अभ्यास: Optional (B)
Max. Marks / अधिकतम अंक: 50

Objectives:
- To understand the importance of communication.
- To develop skill for communication ability.
- Importance of audio visual aids in communication.

| Unit-1 | 1. Concept of communication  
|        | 2. Elements and process of communication.  
|        | 3. Functions of communication.  
|        | 4. Non verbal communication-Sign, Gestures, body movement.  
|        | 5. Verbal communication-Language and written communication.  
|        | 1. |

| Unit-2 | 1. Types of communication - Intra personal, Inter personal, Group communication and Mass communication.  
|        | 2. Feed back in communication.  
|        | 4. Elements of effective communication.  
|        | Barriers to communication |

| Unit-3 | 1. Print Media-Origin, development characteristics of News paper.  
|        | 2. News agencies-United news of India (UNI). Press Trust of India (PTI) Reuter, tass and etc.  
|        | 3. magazine-Format. Type and organization.  
|        | 5. Features article, Editorial.  

| Unit-4 | 1. Radio-Origin, development and characteristics of Radio.  
|        | 2. radio as a mass medium.  
|        | 4. various types of Interview.  
|        | 5. Folk Media.  

| Unit-5 | 1. Television-origin, development and characteristics of television.  
|        | 4. Film-Origin, Development of India film.  
|        | 5. Socio cultural effects of film as mass medium. Censorship, using film for extension.  

**Class** / कक्षा : M.Sc. (Home Science)  
**Semester** / सेमेस्टर : IV  
**Subject** / विषय : Food & Nutrition  
**Title of Subject Group** / विषय समूह का शीर्षक : Mass Communication  
**Paper No.** / प्रश्ननंबर क्रमांक : IV  
**Compulsory / आवश्यक या Optional / वैकल्पिक अनिवार्य** : Optional (B)  
**Max. Marks अधिकतम अंक** : 50

**Objectives:**
- To understand the importance of communication.
- To develop skill for communication ability.
- Importance of audio visual aids in communication.

| Unit-1 | 1. Concept of communication  
| 2. Elements and process of communication.  
| 3. Functions of communication.  
| 4. Non verbal communication-Sign, Gestures, body movement.  
| 5. Verbal communication-Language and written communication. |

| Unit-2 | 1. Types of communication - Intra personal, Inter personal, Group communication and Mass communication.  
| 2. Feed back in communication.  
| 4. Elements of effective communication. Barriers to communication |

| Unit-3 | 1. Print Media-Origin, development characteristics of News paper.  
| 2. News agencies-United news of India (UNI). Press Trust of India (PTI) Reuter, tass and etc.  
| 3. magazine-Format. Type and organization.  
| 5. Features article, Editorial. |

| Unit-4 | 1. Radio-Origin, development and characteristics of Radio.  
| 2. radio as a mass medium.  
| 4. various types of Interview.  
| 5. Folk Media. |

| Unit-5 | 1. Television-origin, development and characteristics of television.  
| 2. T.V. News.  
| 4. Film-Origin, Development of India film.  
| 5. Socio cultural effects of film as mass medium. Censorship, using film for extension. |
Department of Higher Education, Govt. of M.P.
Post Graduate Semester wise Syllabus
as recommended by Central Board of Studies and approved by the Governor of M.P.

Syllabus of Home Science for M.Sc.

Session 2010-2011

Class / कक्षा : M.Sc. (Home Science)
Semester / सेमेस्टर : IV
Subject / विषय : Food & Nutrition
Title of Subject Group / विषय समूह नाम : Mass Communication
Paper No. / प्रमाण कार्यकर्ता : IV
Compulsory / आवश्यक / Optional / वैकल्पिक : Optional (B)
Max. Marks अधिकतम अंक : 50

Objectives:
- To understand the importance of communication.
- To develop skill for communication ability.
- Importance of audio visual aids in communication.

| Unit-1 | 1. Concept of communication  
2. Elements and process of communication.  
3. Functions of communication.  
4. Non verbal communication-Sign, Gestures, body movement.  
5. Verbal communication-Language and written communication. |
|--------|---------------------------------------------------------------|

| Unit-2 | 1. Types of communication - Intra personal, Inter personal, Group communication and Mass communication.  
2. Feed back in communication.  
4. Elements of effective communication.  
Barriers to communication |
|--------|---------------------------------------------------------------------|

| Unit-3 | 1. Print Media-Origin, development characteristics of News paper.  
2. News agencies-United news of India (UNI). Press Trust of India (PTI) Reuter, tass and etc.  
3. magazine-Format, Type and organization.  
5. Features article, Editorial. |
|--------|-------------------------------------------------------------------|

| Unit-4 | 1. Radio-Origin, development and characteristics of Radio.  
2. radio as a mass medium.  
4. various types of Interview.  
5. Folk Media. |
|--------|----------------------------------------------------------------|

| Unit-5 | 1. Television-origin, development and characteristics of television.  
4. Film-Origin, Development of India film.  
5. Socio cultural effects of film as mass medium. Censorship, using film for extension. |
|--------|----------------------------------------------------------------|

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>

Particulars / विवरण
References:

1. Denis Macwell - Mass communication theory & Introduction.
2. C.S. Rayudu - Communication
3. K.M. Shivasava - Radio and T.V. Journalism
4. M.V. Kamath - Professional Journalism
5. ले. उमेश नागर - राजस्थान या तमिल
6. ले. श्रीकांत शिखर - जनम भाषाकर
7. ले. एंटरप्राइज वेडिक - प्रकरणों के लिए अधिक
8. ले. हरिश्चंद्र - विद्यां प्रसंग एवं पश्चिम पुस्तकशाला
9. ले. एजुके नाथ - आशुकी व्यक्तित्व