### Unit-3
- (a) Nutritional regulation of gene expression.
- (b) Inborn errors of metabolism: Sickle cell Anaemia, Thalassaemia, Cystinuria, Phenylketonuria, Hereditary Lactose Intolerance, Cystic fibrosis.

### 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, tannins, phtyate, phytostrogens. 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.

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**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.

Session 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. / प्रश्नावली कार्यक्रम : II
Compulsory / आवश्यक 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 prevention 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

Unit-1

(A) Diseases of liver exocrine pancreas and biliary system: Physiology Etiology, Pathogenesis, Symptoms and Management

(2) Liver diseases
(a) Cirrhosis
(b) Viral hepatitis
(c) Hepatic coma
(d) Wilson's disease

(3) Disorder related to gall bladder
(a) Cholecystitis
(b) Gall stones

(4) Disorders related to pancreas
(a) Pancreas

Unit-2

A) Nutritional care in Cardio-vascular disorders.

1. Hypertension-
   a) Definition.
   b) Criterion
   c) Types
   d) Causes
   e) Nutritional Management
   f) Drugs.

2. Hyperlipidemia
   a) Lipids - Proteins and their metabolism


| Unit-3 | A. **Diet in Disease of endocrine pancreas**  
|        | (a) Etiology  
|        | (b) Classification  
|        | (c) Symptoms and diagnosis  
|        | (d) Management clinical vs. Chemical control  
|        | (e) Insulin Therapy  
|        | (f) Oral hypoglycemic drugs  
|        | (g) Glucose monitoring at home  
|        | (h) Dietary care with and without insulin  
|        | (i) Specific Diabetic food  
|        | (j) Sweetness and sugar substitutes  
|        | (k) Diabetic coma  
|        | (l) Insulin reaction  
|        | (m) Patient education  
| B. **Nutritional care in Hypoglycemia**  
|        | (1) Hypoglycemia  
|        | (a) Symptoms  
|        | (b) Types  
|        | (i) Reactive Hypoglycemia  
|        | (ii) Idiopathic Hypoglycemia  
|        | (c) Dietary treatment  

| Unit-4 | A. **Nutritional care for patient with disease of Kidney**  
|        | Review of physiology and function of normal kidney  
|        | 1. Nephritis  
|        | (a) Classification  
|        | (b) Etiology  
|        | (c) Characteristics  
|        | (d) Nutritional care and management  
|        | 2. Nephritic syndrome  
|        | (a) Etiology  
|        | (b) Characteristics  
|        | (c) Nutritional care and management  
|        | 3. Acute and Chronic renal failure  
|        | (a) Etiology  
|        | (b) Types  
|        | (c) Nutritional care and management  

| Unit-5 | **Nutritional care for patients having Surgery and Burns, Cancer**  
|        | (A) Surgery  
|        | (1) Pre operation nutritional care  
|        | (2) Post operative nutritional care  
|        | (a) Gastric surgery  
|        | (b) Gall bladder surgery
Practical:

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:
6. Food Nutrition and Dietetics.
12. Dietetics - Shrilaxami.
15. Clinical Dietetics and Nutritional F.P. Anita.
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: Food Science & Current Trends
Paper No. / प्रश्नावली क्रमांक: III
Compulsory / अनिवार्य / Optional / वैकल्पिक अनिवार्य: Compulsory
Max. Marks / मूल्यांक: 60

Particulars / विस्तार

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

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.

Suggested Readings:
1. Food Science- Shri Laxmi.
2. Food Science and Principles- SManey.
4. Food Preparation- Peckham.
5. Food Science- Niemann Potter.
7. Introductory Food- Bennian Hughes.
13. Experimental Cookery – Palmer
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. / प्रतियोगिता क्रमांक: IV
Compulsory / अनिवार्य या Optional / वैकल्पिक अनिवार्य: Optional (A)
Max. Marks / मaksिमम अंक: 50

<table>
<thead>
<tr>
<th>Unit-1</th>
<th>Maternal Health</th>
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<tbody>
<tr>
<td>(a) Disease pattern and Reproductive health</td>
<td></td>
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<td>(b) Women-pregnancy and lactation</td>
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<td>(c) Safe Motherhood</td>
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<td>(d) Care of at-risk mothers</td>
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<td>(e) Health seeking behaviour</td>
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<td>(f) Women and AIDS</td>
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<tr>
<th>Unit-2</th>
<th>Issues related to Child Nutrition</th>
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<tbody>
<tr>
<td>(a) Infant Physiology and pre-term and low birth weight infants- Implication for feeding and management.</td>
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<td>(b) Growth and development during infancy, childhood and adolescence.</td>
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<td>(c) Feeding of infants and children and dietary management</td>
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<tr>
<th>Unit-3</th>
<th>Issues related to Elderly</th>
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<tbody>
<tr>
<td>(a) The ageing process Physiological, biochemical and body composition changes.</td>
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<td>(b) Theories of ageing</td>
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<tr>
<th>Unit-4</th>
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<tbody>
<tr>
<td>(a) Socio Psychological aspects of ageing especially problems of elderly women</td>
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<td>(b) Nutritional requirement of elderly and dietary management to meet nutritional needs.</td>
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<tr>
<th>Unit-5</th>
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<tbody>
<tr>
<td>(a) Chronic degenerative diseases and nutritional problems of elderly their etiopathogenesis, management, prevention and control.</td>
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<tr>
<td>(b) Policies and programmes of government and NGO sector pertaining to the Elderly.</td>
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</tbody>
</table>

**Note**

**Suggested Readings:**

i. Census report, Government of India and Govt. of Madhya Pradesh.
ii. NFHS Reports, Govt. of India.
iii. UNICEF- States of the worlds children
v. Textbook of Nutrition and Dietetics, Kumud Khanna
Diet and ageing, exploring some facts, Dr. Kalyan Bagchi and Seema Puri
Nutrition in children, developing country concerns, H.P.S. Sachdev, Panna Choudhary
National profile on women, health and development, Sarla Gopalan, Mira Shiva, Voluntary Health
Association of India and WHO.
Class / कक्षा: M.Sc. (Home Science)  
Semester / शेषनेत्र: IV  
Subject / विषय: Food & Nutrition  
Title of Subject Group: Mass Communication  
Paper No. / प्रश्नावली नं: 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.  
5. 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.
References:
1. Denis Macwell - Mass communication theory & Introduction.
2. C.S. Rayudu - Communication
3. K.M. Shrivastava - Radio and T.V. Journalism
4. M.V. Kamal - Professional Journalism
5. डी. अंबर प्रसाद सिंह - संस्कृति व गतिविधियों का अस्तित्व
6. डी. श्रीनंदन सिंह - जनसांस्कृति
7. डी. केदारनाथ देसाई - प्रकाशित की विभिन्न आयुक्त
8. डी. हरिचंदन - अंद्रेत एवं पूर्वार्थ प्रकाशित
9. डी. अरुण शर्मा - अनुमंडल चित्रहित