

## MSc Food Nutrition & Dietetics

### SEMESTER I

Course Code	Course Title	L-T-P	Credits
HFN 801	Diet Therapy	2 – 0 – 4	4
HFN 802	Advanced Community Nutrition	2 – 0 – 4	4
MAS 711	Statistics I	2– 0 – 2	3
CHEM 715	Food Analysis	2– 0 – 2	3
ECON 705	Research Methodology	2– 0 – 4	4
		<b>10– 0 – 16</b>	<b>18</b>

### SEMESTER II

COMP 705	Computer Orientation	2 – 0 – 2	3
MAS 715	Statistics II	2 – 0 – 2	3
MBMT 811	Food and Dairy Microbiology	2– 0 – 4	4
BCBT 722	Advance Biochemistry and Human Nutrition	2– 0 – 2	3
HFN 803	Experimental Cookery	2– 0 – 4	4
		<b>10– 0 – 14</b>	<b>17</b>

### SEMESTER III

HFN 804	Advanced Nutrition	2 – 0 – 2	3
HFN 880	Seminar	0 – 0 – 2	1
		<b>2– 0 – 4</b>	<b>4</b>

### SEMESTER IV

Course Code	Course Title	L-T-P	Credits
HFN 899	Thesis	0 – 0 – 30	15
		<b>0– 0 – 30</b>	<b>15</b>

Note: Additional optional courses:

HFN 800 Dietetics Internship } 6 weeks in hospitals during vacation } 3 Credits

*Thesis credits (total) 15 which may be distributed during the III and IV semesters*

**Total Credits = (57 if Dietetics Internship is included)**

## M.Sc. Food, Nutrition & Dietetics

Dept. of Foods & Nutrition  
HFN 801 DIET THERAPY

### Course Outline

<b>THEORY</b>	<b>Credits 4(2-0-4)</b>
- Therapeutic adaptations of the normal diets; methods of feeding patients	2
- Role of dietitian in the hospital and community education	2
- Incidence, etiology, manifestation and dietary management of disorders of:	
❖ Gastrointestinal tract	3
❖ Liver	2
❖ Gall Bladder	2
❖ Kidney	2
❖ Cardio Vascular system	3
- Metabolic disorders: Diabetics Mellitus and Gout	3
- Diet in obesity and Underweight	3
- Nutrition in surgical conditions	2
- Diet in fevers and infections	2
- Diet in burns and allergies	2
- Diet and Cancer	2
- Nutrition and infection interaction	2
	<b>TOTAL 32</b>

### PRACTICALS

- Planning and preparing routine hospital diets: fluid diet, soft and normal diet	2
- Planning, calculation and preparing diets for different disorders	
Gastrointestinal disorders	
❖ Diarrhoea and dysentery	2
❖ Constipation	2
❖ Mal absorption	2
- Liver disorders	2
❖ Jaundice	
❖ Cirrhosis	2
- Gall bladder stones	2
- Kidney disorders	
❖ Chronic Renal failure	2
❖ Urolithiasis	2
- Cardiovascular	
❖ Hypertension	2
❖ Atherosclerosis	2
- Diets in diabetes Mellitus	2
- Diet in the following	
❖ Gout	2
❖ Obesity	2
❖ Underweight	2
- Diet in fevers –	
❖ Tuberculosis	
❖ Typhoid	2

**TOTAL 32**

**Marks Distribution**

Mid Term	=15
Assignment /Quizzes	=10
Practicals	=45
End Term Exam	=30
<b>Total</b>	<b>100</b>

**REFERENCES:**

- Mahan, L.K. and Escott Stump, S.2000. Krause's Food Nutrition and Diet Therapy 10<sup>th</sup> Ed., WB Saunders & Co. London
- Antia, F.P. and Abraham, P. 1997. Clinical Dietetics and Nutrition 4<sup>th</sup> Ed., Oxford University Press, New Delhi
- Anderson, L; Dibble, M.U. and Turkki. 1982 Nutrition in Health and Disease. JB Lippincott Co. Toronto
- Srilakshmi, B. 2000. Dietetics. Wiley Eastern Ltd. 4835/24, Ansari Road, Daryaganj. New Delhi.

## M.Sc. Food, Nutrition & Dietetics

Dept. of Foods & Nutrition

### HFN 802 ADVANCED COMMUNITY NUTRITION

#### Course Outline

<b>THEORY</b>	<b>Credits 4(2-0-4)</b>	
- Assessment of nutritional status		
❖ Anthropometric measurements	}	6
❖ Dietary surveys		
❖ Clinical investigation		
❖ Biochemical assessment		
- Food production and consumption in relation to population		3
- Materno foetal nutrition		
❖ Maternal nutrition	}	5
❖ Relation between maternal and foetal nutrition		
❖ Current MMR and IMR		
- National food balance. Balance sheet and food service		3
- Planning, executing, monitoring and evaluation of nutrition programmes		3
- National and International nutrition programmes		6
- Agricultural and nutritional policies in India		3
- Malnutrition and environmental health		3

#### TOTAL 32

<b>PRACTICAL</b>	
- Planning and conducting nutritional status surveys	12
❖ Diet Survey, Clinical Survey, Anthropometric survey	
- Presentation and interpretation of data	8
- Preparation of audio visual aids and imparting nutrition education	12

#### TOTAL 32

#### Marks Distribution

Mid Term	=15
Assignments/Quizzes	=10
Practical	=45
End Term Examination	=30

**Total 100**

#### REFERENCES

- Gibson, R.S. 1990. Principles of Nutritional Assessment. Oxford University Press. New Delhi
- Gopaldas, T and Seshadri, S. 1987. Nutrition – Monitoring and Assessment. Oxford University Press. New Delhi

- Jelliffe, D.B. Latest Ed. The Assessment of Nutritional Status of Community WHO/FAO Monograph series No.53, WHO Geneva
- Mann, S.K; Sangha, J.K; Mehta, U and Jain, R.1999. Manual on Community Nutrition, College of Home Science, PAU, Ludhiana
- Robinson, C.H. and Lawler, M.R.1982 Normal and Therapeutic Nutrition. Oxford & IBH Pub. Co. New Delhi
- Swaminathan, H. 1995, Essentials of Food and Nutrition Vol. II Bappco. Bangalore
- Anonymous, 1998, Indian Nutrition Profile. Dept. of Women & Child Dev. Ministry of Human Resource Dev. Govt. of India Press New Delhi.
- Maclaren, D.S. 1986. Nutrition in the Community 2<sup>nd</sup> Ed. John Willey and Sons, New York
- Obert, J.C. 1986. Community Nutrition. Mac Millan New York
- Park, K.2000. Park's Text Book of Preventive and Social Medicine 16<sup>th</sup> Ed. M/s Banarsidas Bhanot Pub. Jabalpur, India
- Sri Lakshmi, B. 2000 Nutrition Science. New Age International (P) Ltd. Pub. Ansari Road Daryaganj. New Delhi

## M.Sc. Food, Nutrition & Dietetics

Dept. of Foods & Nutrition

### HFN 803 EXPERIMENTAL COOKERY

#### Course Outline

<b>THEORY</b>	<b>Credits 4(2-0-4)</b>
a) Palatability of food and measurement of its acceptance.	1
b) Sensory evaluation, relation of cookery to colloidal chemistry.	2
Fats and oils:	
a) Composition, types.	2
b) Changes in cooking, factors affecting absorption and rancidity.	1
Starch cookery – cereals, composition properties and use, processing.	2
a) Flour and flour mixtures – composition, kinds, gluten content,	2
b) Factors affecting baking quality of flour, structure of batter and dough.	2
c). Leavening agents – types, their use in food preparations	1
Sugar cookery.	1
Vegetables – classification structure, composition, changes during cooking..	2
Fruits – structure and composition, pectic substances, factors affecting gel formation.	2
a) Egg: structure, composition, quality, preservation.	2
b) Function of egg in food preparation.	1
Emulsion – classification and types.	2
Milk and milk products – composition, kinds and processing.	2
Meat: structure, composition, cooking and storage.	2
Pulses and legumes – ways of making them more digestible and increasing nutritional value.	2
Gelatin: structure, composition, use in foods.	1
Frozen mixtures ice cream, sherbets.	2
	3
<b>TOTAL</b>	<b>32</b>
<b>PRACTICAL</b>	
Sugar cookery – fudge, fondant and caramels.	4
Starch cookery – use of flour and flour mixture.	2
Preparation of vegetables – changes occurring during cooking.	2
Fruits – raw and cooked and preservations.	2
Preparation of emulsions – salad dressing.	2
Milk and milk products: Dahi, Paneer, Sweets, Beverages, Cream,	12
Soups.	
Egg cookery, meat cookery – different methods of cooking meat and eggs	4
Frozen deserts – ice cream & sherbets	4
<b>TOTAL</b>	<b>32</b>

**Marks Distribution**

Mid Term	=15
Assignment/ quizzes	=10
Practicals	= 45
End Term Exam	= 30
<b>TOTAL</b>	<b>100</b>

**REFERENCE**

- Swaminathan, M.1995. Food Chemistry and Experimental Foods Bappco, Bangalore
- Belle and Lowe., Experimental Cookery. John Willey & Sons, 1937 **OR** latest Ed.
- H.C. Meyer, Food Chemistry. CBS Pub. & Distributors 1960. Litton Educational Pub. Inc. OR latest Ed.
- M.Shadaksharaswany; N.Shakuntala Manay. Food Facts and Principles, Mohindra Singh Sejwal for Wiley Eastern Limited, Ansari Road Daryaganj, New Delhi
- Moor, M.L; Irmitu,T.F.1970.Introductory Foods Laboratory Manual of Food Preparation and Evaluation, London Mac Millian
- Mudami S. 1997. Food Science. New Age International (P) Limited Pub.

**M.Sc. Food, Nutrition & Dietetics**  
Dept. of Foods & Nutrition  
HFN 804 ADVANCED NUTRITION

*Course Outline*

<b>THEORY</b>	<b>Credits 4(2-0-4)</b>
- Body composition, chemical nature of plant , food and animal tissues	3
- Determination of nutrient needs and their nutritional significance	
❖ Energy requirement	3
❖ Protein requirement	2
❖ Vitamins and mineral requirement	2
- Primary nutritional disorders, inborn errors of metabolism	4
- Biochemical manifestation of nutritional deficiency	3
- Nutritional classification of proteins and amino acids, biological value, digestibility, nitrogen balance	3
- Animal and vegetable fat, fat deposition in animal body	3
- Hunger and satiety value	2
- Biochemical and biophysical tests for assessment of nutritional status of human	2
- Drug-nutrient interaction	2
- Application of enzymes in food industry, biogenesis of food flavours and aroma, biochemistry of natural and synthetic food colours	3
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**TOTAL 32**

**PRACTICAL**

- Use of bomb calorimeter
- Determination of BMR
- Techniques of nitrogen balance and digestibility
- Estimation of vitamins and minerals in foods
- Animal balance studies to recognize vitamin and mineral deficiencies
- Analysis of urine for nitrogen, urea, uric acid, creatinine
- Identification of natural and synthetic food colour
- Estimation of hemoglobin
- Assessment of blood calcium, iron and phosphate

**TOTAL 32**

**Marks Distribution**

Mid Term	=20
Assignment/ quizzes	=10
Practicals	= 30
End Term Exam	= 40
<b>TOTAL</b>	<b>100</b>

## REFERENCES

- Swaminathan, M.1995. Essentials of Food and Nutrition Vol. I Bappco. Bangalore.
- Eastwood, M. A. and Passmore, R. 1987. Human Nutrition and Dietetics. VIII Ed. ELBS Churchill Livingston, London.
- Bamji, M.S; Rao, N.P and Reddy, V. 1996. Textbook of Human Nutrition. Oxford & IBH Publishing Co Pvt. Ltd. Delhi.
- ICMR.1990. Nutrient Requirements and Recommended Dietary Allowances for Indians, NIN, ICMR. New Delhi.