SHIVAJI UNIVERSITY,
KOLHAPUR.

Accredited By NAAC
2009

P.G. Diploma
in
Nutrition and Dietetics

Syllabus to be implemented from June 2012 onwards.
P.G. Diploma in Nutrition and Dietetics

1. Nomenclature of the Degree:
The nomenclature of the degree awarded shall be Post Graduation Diploma in Nutrition and Dietetics.

2. Eligibility for Admission
The eligibility for admission to the P. G. Diploma Course in Nutrition and Dietetics shall be B.Sc. in Home Science with specialization in Foods and Nutrition or General Home Science or B.Sc. B Group or B.F.T.M. or M.B.B.S. or B.H.M.S. or B.A.M.S. or B.Pharmacy.

3. Mode of Admission
Admission for P.G. Diploma in Nutrition and Dietetics shall be based purely on merit basis. The intake capacity is 30 students.

4. Duration to complete the Course
The candidate who fails to complete the course within a period of one academic year should complete the course within four years from the date of joining the course.

5. Attendance:
A candidate shall not be allowed to appear for the final examination of the University unless she/he has kept a term in the college and produces a certificate from the Principal of the college.

a) Of having completed the minimum units in theory and practical as prescribed in the syllabus.

b) Of having attended 80% of the total period devoted to Practical/orals/seminar/displays/workshop/project work and other related activities.

c) Of having submitted the required no. of tutorials seminars and assignments.
Standard of Passing

To pass the examination a candidate must obtain 40% of marks in each paper. The minimum standard of passing in each theory paper of 80 marks shall be 32 and for practical paper of 50 marks shall be 20.

The class for P.G. Diploma will be awarded as follows.

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P.G. Diploma in Nutrition and Dietetics

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Compulsory internship of 3 months.

Note: - 1 period is of 60 minute
## Workload

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Note: - Practical batch of 15 students.
EXAMINATION PATTERN

Theory: - 100 Marks
External Assessment: - 80 Marks
Internal Assessment: - 20 Marks

Distribution of the External Marks

Objective Questions: 10 Marks
• Fill in the blanks.
• Match the following
• True or False

Short Notes: 20 Marks

Subjective Questions: 50 Marks
Solve any five questions out of seven.

Distribution of the Internal Mark

• Attendance: 5 Marks
• Home Assignments: 5 Marks
• Class test: 10 Marks

Practical Paper: 50 Marks
• Journals: 10 Marks
• Viva: 10 Marks
• Experiment: 30 Marks

Dissertation and Seminar 100 Marks
• Dissertation 80 Marks
• Seminar 20 Marks
  ➢ Report 10 Marks
  ➢ Presentation 10 Marks
Post Graduate Diploma in Nutrition & Dietetics
Subject: CLINICAL NUTRITION
Paper I

Objectives: -
To enable the students:
1] To obtain knowledge regarding metabolic processes of normal and diseases organs and tissues
2] To be familiar with dietary modifications based on physiological changes occurring in disease conditions
3] To be aware of recent advances in the area of clinical nutrition

1. PEDIATRIC NUTRITION:
   Growth and Development
   Nutritional Considerations of LBW Infants
   Nutritional Considerations of Children
   Nutritional Concerns
   Childhood Obesity
   Under nutrition

2. AGEING AND OSTEOPOROSIS:
   Physiological changes
   Bone health
   Osteoporosis
   Rheumatoid Arthritis
   Nutritional Support

3. NUTRIENT AND DRUG INTERACTIONS:
   Basic Concept
   Effect of Nutrition on Drugs
   Drug Effects on Nutritional Status

4. FOOD INTOLERANCES AND FOOD ALLERGY:
   Adverse food reactions
   Treatment and Management
   Prevention

5. NUTRITION AND CANCER
   Carcinogenesis and Mutagenesis
   Development of cancer
   Metabolic alterations during cancer
   Recent development in Nutrition and cancer
6. NUTRITION AND DENTAL HEALTH
Structure, development and maturation
Dental caries
Recent advances in role of Nutrition in dental health

7. NUTRITION AND NEUROLOGICAL DISORDERS
Parkinson’s disease
Alzheimer’s disease
Epilepsy
Migraine
Multiple Sclerosis
Neurotrauma
Spine trauma
Feeding problems in patients with neurological disorders.

REFERENCES:

JOURNALS AND OTHER REFERENCE SERIES:
1. Nutrition update series
2. World review of nutrition and dietetics
3. Journal of the American dietetic association
4. American journal of clinical nutrition
5. European journal of clinical nutrition
Objectives:
To enable students to:
1) Learn the role of nutrients in foods and deficiency diseases.
2) Understand the metabolism of nutrients in health and diseases

1) Carbohydrates
Definition, classification, physical and chemical properties, sources, biological role, metabolism, deficiency diseases, inborn errors and other metabolic disorders.

2) Proteins
Definition, classification, physical and chemical properties, sources, biological role, Biological value of protein, protein metabolism, protein deficiency diseases, and inborn errors and other metabolic disorders.

3) Lipids
Definition, classification, physical and chemical properties, sources, biological role, metabolism, and inborn errors and other metabolic disorders.

4) Vitamins
Definition, classification, characteristics, absorption & role of vitamins in metabolism, deficiency diseases.

5) Minerals
Definition, types, absorption & role of minerals, minerals deficiency diseases.

6) Hormones-
Definition, Classification, Mechanism of action, Biochemical functions and disorders

7) Acid Base balance-
   Mechanism and disorders

8) Interrelation between Nutrients
   Interrelation between carbohydrates, proteins and fats
   Interconversion between carbohydrates, proteins and fats
   Regulation of metabolic pathway
References:
1) Yadav S. 'Food Chemistry' New Delhi, Anmol Publications Pvt. Ltd.
2) Meyer 'Food Chemistry' New Delhi, C. B. S. Publications & distributors.
3) Lubert Stryer 'Biochemistry'
5) Potter N. N. (1987), 'Food Science, New Delhi, CBS Publication and Distributor.
6) Sukumar De. (1997), 'Outlines of Dairy Technology' New Delhi, Oxford University Press.
7) Syed etal (1997), Experimental Methods in Food Engineering', New Delhi, CBS
Post Graduate Diploma in Nutrition & Dietetics  
Subject: DIETETICS AND DIET COUNSELLING  
Paper III

Objectives:-
The course will enable the students:
1] To understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient needs.
2] To know the effect of the various diseases on nutritional status and nutritional and dietary requirements.
3] To be able to recommend and provide appropriate nutritional care for prevention/and treatment of the various diseases.

1. THERAPEUTIC DIETS:
   Basic Concept
   Therapeutic Adaptation of Normal Diet
   Factors Considered
   Routine Hospital Diets
   Mode of feeding methods
   Role of dietitian in the Hospital and Community
   Patient Care and Counseling

2. DIET IN FEVER:
   Nutrition and Infection
   Metabolic changes during Infection
   Typhoid fever
   Tuberculosis
   HIV Infection and AIDS

3. DIET IN WEIGHT IMBALANCE AND COUNSELING:
   Obesity and Underweight
   Causes
   Health Risk
   Dietary Treatment
   Psychotherapy

4. DIET IN DISEASES OF GASTRO INTESTINAL TRACT AND COUNSELING:
   Upper GI Tract Disorders
   Disorders of Esophagus
   Disorders of Stomach
   Lower GI Tract Disorders
   Common Intestinal Disorders
   Disorders of Small Intestine
   Intestinal Brush Border Enzyme Deficiencies
   Inflammatory Bowel Diseases, Disorders of Large Intestine
5. DIET IN LIVER DISEASES AND COUNSELING:
- Hepatitis
- Cirrhosis of Liver
- Hepatic coma
- Diseases of Gall Bladder
- Diseases of Pancreas

6. DIET IN KIDNEY DISEASES AND COUNSELING:
- Glomerulonephritis
- Nephrotic Syndrome
- Acute Renal Failure,
- Chronic Renal Failure
- End Stage Liver Diseases
- Urolithiasis

7. DISEASES OF METABOLIC DISORDER AND COUNSELING:
- Diabetes Mellitus
- Gout

8. DIET IN CANCER & COUNSELING:
- Risk factors
- Metabolic Alterations and Nutritional Problems related to Cancer
- Nutritional requirements of Cancer patients related to Cancer Therapy
- Cancer Prevention

9. DIET IN CARDIOVASCULAR DISEASES & COUNSELING:
- Coronary Heart Diseases (CHD)
  - Prevalence
  - Risk Factors
  - Pathophysiology
- Dyslipidemia
- Atherosclerosis
- Hypertension
- Angina Pectoris
- Myocardial infarction
- Congestive Cardiac Failure
Reference:
Post Graduate Diploma in Nutrition & Dietetics
Subject: HUMAN PHYSIOLOGY
Paper IV

Objectives:-
To enable students to understand the:
1. Structure of the cell, various tissues and organs of the body and their functions.
2. Different systems of the body and their functions with special reference to the
digestion, absorption, transport and uptake of nutrients and elimination of waste
products.
3. Physiological changes at different stages of life and
4. Importance of hormonal and nervous regulation of the body function.

1. Organization of human body
   Definition of anatomy, physiology, general anatomy of human body. Cell, Tissues -
   Structure and functions of various types of tissues, systems

2. Digestive System
   Brief study of the anatomical organization of the digestive tract and process of
digestion, absorption and assimilation of food, Disorders

3. Circulatory System
   Heart Structure and working of heart, Blood pressure, Cardiac cycle, cardiac output,
   heart rate

4 Hematology
   Composition and functions of blood. Mechanism of blood coagulation, blood group
   systems

5. Lymphatic system.-Composition & Formation, organs involved, functions of
   lymph, disorders

6. Defense mechanisms of the body
   First line, second and third line of defence, active immunity, passive immunity,
   Factors affecting immunity

8. Respiratory System
   Basic anatomy of the respiratory system. Process of respiration, Disorders

9. Excretory System
   Excretory organs- Structure and functions of Kidneys, Formation of urine
   Composition of urine, Disorders.
10. Nervous system
Physiology of the nerve cell, Parts of the Central Nervous System and functions. Origin and propagation of nerve impulse, Synaptic transmission, neurotransmitters, Disorders

References:-
Post Graduate Diploma in Nutrition & Dietetics  
Subject: PUBLIC NUTRITION  
Paper V

Objectives:-
To enable the students:
1] To focus on the promotion of good health through nutrition and the primary prevention of nutrition related problems
2] To deal with nutritional epidemiology.
3] To be aware of public policies relevant to nutrition.

1. PUBLIC NUTRITION:  
Concept  
Scope  
Future projections  
Health care  
Role of public nutritionists in health care delivery

2. NUTRITIONAL PROBLEMS IN INDIA:  
Protein Energy Malnutrition  
Micronutrient Deficiencies  
Vitamin Deficiencies

3. ASSESSMENT OF NUTRITIONAL STATUS:  
Population sampling  
Anthropometry  
Clinical assessment  
Biochemical assessment  
Dietary assessment

4. NUTRITION MONITORING AND NUTRITION SURVEILLANCE  
Nutrition Monitoring and its Current programmes  
Nutrition Surveillance System

5. NATIONAL NUTRITION PROGRAMMES:  
Integrated Child Development Services (ICDS) Programme  
Nutrient Deficiency Control Programme  
Supplementary Feeding Programme  
Food Security Programme
6. STRATEGIES TO COMBAT NATIONAL NUTRITIONAL PROBLEMS

Introduction
Diet or food based strategies
Nutrient based strategies
Immunization

7. NUTRITION AND HEALTH EDUCATION:

Definition
Importance
Channels of nutrition education
Nutrition education methods
Planning for Nutrition and Health Education
Techniques of Nutrition Education
Role of Nutrition Education Programs in eradication of malnutrition

REFERENCES:
Objectives:-
To enable the students:
1. To develop food service management skills,
2. To develop professional approach backed by special skills, knowledge and vigilance at every stage of food service operation’
3. To acquire specific knowledge about training and/ or developing manpower in food service unit.

1. FOOD SERVICE MANAGEMENT:
Types of Food service establishments
Principles of Management
Functions of Management
Planning of a layout

2. MENU PLANNING:
Importance of menu planning
Types of menu planning
Steps in menu planning and its evaluation

3. FOOD PURCHASING AND STOREROOM MANAGEMENT:
Mode of purchasing
Methods of purchasing
Receiving
Storage Space
Storage Room Management

4. FOOD PRODUCTION- PLANNING AND CONTROL
Production Forecasting
Production Scheduling
Production Control
Standardized Recipes

5. QUANTITY FOOD PRODUCTION:
Basic cookery procedures
Types of Equipments
6. FOOD DELIVERY AND SERVICE SYSTEMS:
Methods of food delivery systems
Centralized and decentralized
Types of food service systems

7. PERSONNEL MANAGEMENT
Leadership
Functions and qualities of leadership
Manpower Planning,
Recruitment and Selection,
Placement and Induction,
Performance Appraisal,
Training and development

8. FOOD HYGIENE AND SANITATION:
Sanitation in food services
3E’s of safety
Food safety
Hygienic food handling

Reference:
1. Lockwood, Andrew: Quality Management in Hospitality: Best Practice in Action
2. Kumar, H L: Personnel Management in hotel and catering industry. New Delhi:
   Metropolitan, 1986.
   John
   Willey & Sons,
   Approach, Bombay, Willey Eastern. Ltd.
   2002.
Lab Course I

1. Weights and measures

2. Standardized recipes

2. Preparation of therapeutic diets – clear liquid diet, full fluid, soft and normal diet.

3. Diet in fever.

4. Diet in gastro intestinal diseases

5. Diet in liver diseases.

6. Diet in cardiovascular diseases

7. Diet in kidney diseases

8. Diet in disease of metabolic disorder such as Diabetes mellitus and gout.

9. Diet in cancer
Lab Course II

1. Anthropometric measurements

2. Nutrition Education
   - Teaching aids
   - Nutrition messages

3. Estimation of Blood Glucose


5. Estimation of Serum Creatinine.


7. Estimation of Serum protein

8. Estimation of Hemoglobin

9. Urine analysis

10. Estimation of SGOT

11. Estimation of SGPT
## EQUIVALENCE FOR PGDND Course

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