“A” Re-accredited By NAAC (2014) with CGPA-3.16

Revised Syllabus For

P.G. Diploma
In
Nutrition and Dietetics

Syllabus to be implemented from June 2015-16 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 B.Sc. or B.F.T.M. or M.B.B.S. or B.H.M.S. or B.A.M.S. or B. Pharmacy or Bachelor of Physiotherapy or B. Tech. (Food Technology) or equivalent degrees.

3. Intake capacity:
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 assignment.
**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.

- 40 - 49% - Pass Class
- 50-59 % - Second Class
- 60-69% - First Class
- 70% and above - First Class with Distinction

**STAFF REQUIREMENT AND QUALIFICATION**

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<td>Assistant Professor -</td>
<td>A) Master of Science (MSc.) with Specialization in the following</td>
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<td>1. Dietetics and Food Service Management</td>
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<td>3. Clinical Nutrition</td>
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<td>4. And Equivalent degrees</td>
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<td>B) The minimum requirements of a good academic record, 55% marks (or an equivalent grade in a point scale wherever grading system is followed) at the master’s level and qualifying in the National Eligibility Test (NET), or an accredited test (State Level Eligibility Test - SLET/SET), shall remain for the appointment of Assistant Professors.</td>
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# P.G. Diploma in Nutrition and Dietetics

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Compulsory internship of 2 months.

Note: - 1 period is of 60 minute

## Workload

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EXAMINATION PATTERN

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

Nature of Theory Examination

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.

Nature of Practical Examination

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

Dissertation and Seminar 100 Marks
• Dissertation 80 Marks
  ➢ Report 60 Marks
  ➢ Viva 20 Marks
• Seminar 20 Marks
  ➢ Report 10 Marks
  ➢ Presentation 10 Marks
Post Graduate Diploma in Nutrition and Dietetics
Subject: CLINICAL NUTRITION

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 IN EATING DISORDERS
   Introduction
   Anorexia Nervosa
   Bulimia Nervosa
   Binge Eating Disorders

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 of patients with neurological disorders.

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

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
Post Graduate Diploma in Nutrition and Dietetics
Subject: NUTRITIONAL BIOCHEMISTRY

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
3.)Understand the regulation of metabolism

1) Carbohydrates
Definition, classification, biological role of carbohydrates
Metabolism- Digestion and absorption ,Glycolysis, Krebs cycle, Electron Transport
Chain,Gluconeogenesis, Glycogenesis, Glycogenolysis,HMP pathway
Disorders related to Carbohydrate metabolism.

2) Proteins
Definition, classification, biological role of amino acids and proteins
Biological value of protein,
Metabolism- Digestion and absorption,Transamination, Deamination, Metabolism of
Ammonia, Urea cycle ,
Disorders related to Protein/amino acid metabolism.

3) Lipids
Definition, classification, biological role of fatty acids and lipids
Metabolism- Digestion and absorption ,Oxidation of Fatty acids, Metabolism of
lipoproteins and ketone bodies and their significance ,Cholesterol metabolism
Disorders related to Lipid metabolism.

4) Vitamins
Definition, classification, functions and role of vitamins in metabolism, deficiency
diseases.

5) Minerals
Definition, classification, functions and role of minerals in metabolism, deficiency
diseases.

6) Water and Electrolyte balance -
Water and Electrolyte balance and related disorders

7) Acid Base balance Acid Base balance- Role of buffers, lungs and kidney in
maintaining acid base and related disorders

8) Enzymes - Definition, Classification, mechanism of enzyme action, specificity of
enzymes, types of enzymes, Factors affecting enzyme activity,Coenzymes ,Enzymes
in clinical diagnosis.
References:

- Dasgupta, S. K., Biochemistry Vol. I; n & III, Mc Millan Co. of India Limited
- Lehninger, A. L., Principles of Biochemistry
- Orten J. M. & Newhaus O. V, Human Biochemistry, C. V Mosby
- Chatterjea. Textbook of Medical Biochemistry
- Biochemistry, U Satyanarayna, U. Chakrapani 4th edition,
Post Graduate Diploma in Nutrition and Dietetics
Subject: DIETETICS AND DIET COUNSELLING

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 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 and Dietetics
Subject: HUMAN PHYSIOLOGY

Objectives:-
To enable students to understand the:
1. Structure of the cell, various tissues organs of the body
2. Different systems of the body and their functions
3. Regulation of the body function.

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

2. Circulatory System
Heart Structure and working of heart, Determination of Blood pressure, Cardiac cycle, cardiac output, heart rate Lymphatic system-Composition & Formation, organs involved, functions of lymph

3. Hematology
Introduction to blood, Composition and functions of blood, Mechanism of blood coagulation, blood group systems

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

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

6. Urinary System
- Structure and functions of organs of urinary system, Composition of normal and abnormal urine

7. Endocrine system
Definition, Classification, Mechanism of action, functions and disorders of hormones of pituitary gland, thyroid gland, parathyroid gland, adrenal gland and pancreas

8. Nervous System
Structure of Neuron, Transmission of nerve impulse
Organs of Central Nervous system & their functions
Peripheral Nervous system
Autonomous system
Reflex action
References:
1. L Antony, C.A (1963), 'Text Book of Anatomy and Physiology', the c.v. Moshy Co., Saint Louis
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:
Post Graduate Diploma in Nutrition and Dietetics

Subject: FOOD SERVICE MANAGEMENT

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
Lab Course I

1. 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.


7. Diet in kidney diseases.

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

Lab Course II

1. Estimation of serum calcium
2. Estimation of Blood Glucose.
4. Estimation of Serum Creatinine.
5. Estimation of Bilirubin.
8. Urine analysis.
9. Estimation of SGOT.
10. Estimation of SGPT.
## EQUIVALENCE FOR PGDND COURSE

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<th>Sr. No.</th>
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