

**Punyashlok Ahilyadevi Holkar Solapur University Solapur**



NAAC Accredited-२०१५  
'B' Grade (CGPA २.६२)

**Name of the Faculty: Science & Technology**

**Choice Based Credit System (CBCS)**

**Syllabus: Dietetics & Nutrition**

**Name of the Course:**

**Post Graduate Diploma in Dietetics & Nutrition (PGDDN)**

**(Syllabus to be implemented from June 2021)**

# Post Graduate Diploma in Dietetics & Nutrition (PGDDN)

- **Preamble**

Nutrition is the Biochemical and physiological process by which an organism food to support its life. It include ingestion, absorption assimilation, biosynthesis, catabolism and extraction

The Science that studies the physiological process of Nutrition is called as Nutrition science and Dietetics is the application of science of Nutrition to the human being in health and disease. The profession of Dietetics is a relatively young one first formalized United States in 1917 with foundation American Dietetic Association (ADA.)

Food we eat has significant impact on our health. According to number of scientific studies change in can help prevent or controlled many health problems including obesity diabetes or certain risk factors for cancer and cardiovascular disease. Dietetics is the science of how food and Nutrition affects human health. Afield of Dietetics as a strong emphasis on public health and commitment to educating to all people the importance of making proper dietary choices.

Dietitians and nutritionist use nutrition and food science to help peoples to improve their health. Nutritionist and dietitian both provide to provide care and consultation to patients may also provide general nutrition education both are integral part of health care and food services management team.

Despite of prevalence Nutritional issues such as undernutrition, over nutrition and Nutritional needs in chronic disease, despite recent shift by health system towards preventive health care, nutrition education for doctors trail behind need of patients medical school around the world should consider how high quality nutrition education can be fully embraced.

Medical school have been urged to equip doctors with (narrow) Nutritional expertise to better treat condition like diabetes cardiovascular disease Although importance of such expertise must go beyond management of high chronic disease.

Hence, we have the importance of Nutrition and dietetics in health care education and introduce it as a discipline and there by focus on the process of integration in the curriculum. However, Nutrition and dietetics can lead students to the how to support health care systems with the help of knowledge of nutrition and dietetics

Presently the Punyashlok Ahilyadevi Holkar Solapur University Solapur is running a one year Post Graduation Diploma in Dietetics and Nutrition which getting better response not only from local community but also neighboring district Solapur.

## • Introduction

Post Graduate Diploma in Dietetics and Nutrition program offered by Ahilyadevi Holkar Solapur University Solapur, is a one year course divided in two semesters. Each semester consist of two hard core theory course and one soft core open elective course and one practical.

Hard core theory courses are compulsory in nature and these courses are designed to impart basic knowledge about nutrition and dietetics, i.e. basic concepts about nutrient and balance diet and prepare diet plan for different age group, different types of disease and disorder and different physiological conditions and also impart basic knowledge about food cooking food processing and preservation.

Soft core open elective theory courses are elective in nature and students has to choose any one of soft core theory courses in each Semester. Soft core open elective theory courses are basically designed to give knowledge of application of different field such as sport and fitness, community nutrition intervention program.

Elective theory courses are include Human physiology, help in relationships of nutrition and dietetics with different physiological conditions. Then Research methodology help to impart knowledge about data collection and analysis. Through dedicated practical courses in each semester the students gain Frist hand experience of preparation of diet plan and hands on training in various core components are diet planning in different physiological condition, disease and in different age groups.

In addition to soft core theory courses research methodology course is added that help in students has to undertake a research project in second semester and subsequently submit the research project at isolation and they have complete the project under the guidance of a research supervisor. This enable students not only understand the research methodology but will encourage them to undertake research in Field of nutrition and dietetics in future.

- **Details of PGDDN Program-**

- 1. Program Objectives (PO)**

- The course aims

- 1) To develop student to become a nutritionist & dietician to cater the need of nutrition experts of the local community.
      - 2) To impart knowledge about nutritional assessment and counseling.
      - 3) To train the students in therapeutic nutrition.

- 2. Program Specific Outcomes (PSO)**

- 1) After completion of course student will be expert in doing nutritional assessment & planning different diet plan as per the need of the customer
      - 2) Student will be able to prescribing therapeutic diet plan as per the disease condition
      - 3) Student will be able to work as nutrition counselor or dietician in different hospitals, gym or sports institutes.

- **Program Eligibility**

- Any science/life science graduate form UGC recognized university
    - Any medical graduate
    - Any nursing graduate

- **Admission Criteria**

- a) Graduation Merit

- Or

- b) Graduation Merit and CET marks combined together if the number of applications exceeds the intake capacity. CET shall be of 50 Marks and all questions will be of MCQ in nature.

- **Intake Capacity**

- 30 students per batch

- Overall Structure

PGDDN -Semester I CBCS w. e. f 2021-22									
SEM- I	Paper Code	Paper Title	Semester Exam			Lecture	Practical	Credits	
PGDDN		Hard Core	UA	IA	Total				
	HCDDN 1.1	Nutrition & Dietetics-I	80	20	100	4		4	
	HCDDN 1.2	Nutritional Biochemistry	80	20	100	4		4	
		Soft Core (Any one)							
	SCDDN 1.1	Human Physiology	80	20	100	4		4	
	SCDDN 1.2	Research Methodology							
	HCPDN1.1	Nutrition & Dietetics- Practical -I	80	20	100		4	4	
					<b>400</b>	<b>12</b>	<b>4</b>	<b>16</b>	

PGDDN -Semester II CBCS w. e. f 2021-22									
SEM- II	Paper Code	Paper Title	Semester Exam			Lecture	Practical	Credits	
PGDDN		Hard Core	UA	IA	Total				
	HCDDN 2.1	Nutrition & Dietetics-II	80	20	100	4		4	
	HCDDN 2.2	Food Science & Food Microbiology	80	20	100	4		4	
		Soft Core (Any one)							
	SCDDN 2.1	Sports Nutrition	80	20	100	4		4	
	SCDDN 2.2	Food Service Management & Community Nutrition							
		HCPDN2.1	Nutrition & Dietetics- Practical -II	100	50	150		4	6
		HCPDN 2.2	Internship	50	25	75		2	3
	HCPDN 2.3	Project Work	50	25	75		2	3	
					<b>600</b>	<b>12</b>	<b>8</b>	<b>24</b>	
		Grand Total			<b>1000</b>			<b>40</b>	

<b>Hard Core</b>	<b>SEM-I</b>	<b>HCDDN 1.1</b>	<b>Nutrition &amp; Dietetics I</b>	<b>No of Credits : 04</b>
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CSO: Develop the concept of balanced diet and role of diet during different age groups.

### **Unit 1**

Introduction to nutrition:-Definition related to nutrition, Food, nutrients, nutritional status .what is nutrition & sign of good nutrition & poor nutrition, guidelines of good health. Food & our body:-Body composition, Reference man, Reference women, R.D.A., BMR, calorific value of food, Bomb calorie meter, Determining your own calorific needs, food groups, exchange list systems,

### **Unit 2**

Diet Counselling & therapeutic diets:-Dietician Classification code of ethics, responsibilities, scopes, nutritional counselling.

Therapeutic diets:-Hospital diets & progressive modification, Additional modifications in texture & consistency, Modifications of a normal diet during illness & convalescence.

Modes of Feeding:-Anteral & Parental feeding, gastrostomy, jejunectomy. Pre & Post- operative care

### **Unit 3**

Nutrition during Pregnancy:-Physiological changes, desirable weight change, nutritional needs, complication.

Nutritional needs for lactating women:-Role of hormones in milk production, Nutritional requirements.

### **Unit 4**

Concept of balance diet:-Nutritional needs, physiological changes & balance diet for Infancy, Preschool Children, School going Children, adolescent , adult & geriatric nutrition.

### **References Books:**

1. Robinson 'Normal and therapeutic nutrition' New Delhi, TATA McGraw Hill Publication Co. Ltd.
2. Antia F.P'Clinical Dietetics and Nutrition'. Bombay
3. Joshi S.A. 'Nutrition and dietetics', New Delhi, TATA McGraw Hill Publication Co. Ltd.
4. Crampton E.W. and L.E. Lloyd, 'Fundamentals of nutrition', W.H. Freeman.
5. B.Srilakshmi Dietetics', New Age International Publishers.
6. Davidson S.R, Passmore and IF. Brock, Human Nutrition', Churchill, Livingstone.

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Hard Core	SEM-I	HCDDN 1.2	Nutritional Biochemistry	No of Credits : 04
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CSO: Understand the metabolism of nutrient in health and diseases. Understand role of nutrients and their deficiencies.

### Unit 1

General body composition: -General body composition & methods of determining body composition, factors affecting body composition.

Enzymes:-Definition, nature, classification (division) of enzymes, how enzymes acts, characteristics of enzymes action.

Biophysics:-Units of concentration of solution, Filtration, Diffusion, Osmosis, Ultrafiltration, Dialysis, Surface Tension. Colloid:-Classification, properties & physiological importance.

### Unit 2

Carbohydrates:-Definition, classification, physical & chemical properties, functions, sources, Metabolism, Nutritional aspect of carbohydrate.

Minerals:-Definitions, Functions, requirement of micro & macro minerals.

### Unit 3

Proteins:-Definition, classification, physical& chemical properties, Functions, Sources, Biological value of proteins, protein metabolism. Indices for determination of protein quality.

Nucleic acid:-DNA & RNA, structure & functions, metabolism, genetic disorder e.g .Cancer, autoimmune diseases.

### Unit 4

Lipids: - Definition, classification, physical & chemical properties, Functions, Sources, Biological role, metabolism & inborn error of lipid metabolism, nutritional aspects of lipids.

Vitamins:-Definition, classification, characteristics, absorption & role of vitamins in metabolism, deficiency Diseases

### Reference Books:

1. Yadav S. 'Food chemistry 'New Delhi, Anmol publications Pvt Ltd.
2. Lubert Stryer 'Biochemisrty'
3. Syed et al, Experimental methods in food engineering', New Delhi, CBS.
4. Lehninger A.L.'Principles of biochemistry' New Delhi, Oxford University Press.
5. Sukumar De,'Outlines of dairy technology', New Delhi, Oxford University Press.
6. West Staunton etal' Textbook of Biochemistry', New Delhi, Oxford and IBH publishing Co. Pvt. Ltd.
7. Joshi S.A. 'Nutrition and dietetics', New Delhi, TATA McGraw Hill Publication Co. Ltd
8. Nutrition Science- B, Srilakshmi, New Age International Publishe

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Soft Core	SEM-I	SCDDN 1.1	Human Physiology	No. of Credits: 04
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CSO:-To understand the structure & composition of human body.

### Unit 1

Introduction:-Definition of anatomy & physiology, synopsis of physiological study. Cell:-Structure in details, cell division and Elementary composition of human body. Tissue:-Structure and functions of various types of tissues, organs and organ system. Sensory organs:-Structure & functions of muscles. Musculoskeletal system:-Structure & classification of bones, Axial & appendicular skeletal structure, voluntary & involuntary muscles

### Unit 2

Digestive system:-Introduction & function of digestive track. Organs anatomical structure, secretory glands & their Secretion, enzymatic action, Digestion & absorption of food. Circulatory system:-Introduction, Heart-Anatomical structure and functioning. Arteries:-structure capillaries, veins, spread of cardiac impulse, heart blocks, cardiac cycle Blood:-Function, composition of blood, Hemoglobin-chemistry & count development of RBC, coagulation of blood-Importance & mechanism of coagulation & blood coagulation factors. Thrombosis (Intravascular clotting).Factors preventing & hastening coagulation. Plasma proteins:-Chemistry & separation of plasma proteins, Relation of diet to plasma proteins, functions of plasma proteins. Lymphatic system:-Lymph vessels & their functions, concept of circulation at tissue level. Respiratory system:-Basic anatomy of respiratory system. Process of respiration - transport & exchange of oxygen & Carbon dioxide in the body.

### Unit 3

Excretory system:-Structures & function of kidney ,structure of nephron,renal, threshold values of nutrients ,formation of urine ,fluid & electrolyte balance, composition of urine ,role of skin & liver in excretion. Defense mechanism of body:-Localization of infection, inflammation, active & passive immunity introduction T-lymphocytes-lymphocytes, Immunization, failure of immunity, common variable immune Deficiency syndrome.

### Unit 4

Endocrine glands:-Structure & functions of hypothalamus, pituitary gland, thyroid gland, pancreas, adrenal gland, testis, Ovaries. General introduction to mode of hormones on target cell. Disorders due to hypo & hyper activity of above glands. Reproductive system:-Anatomy & function of male & female reproductive organs. Menstrual cycle conception, Parturition contraception, menopause & associated physiological problems.

### Reference Books:

1. Chatterjee C.C 'Human physiology', Calcutta, Medical Allied agency.
2. Guytons, AC.,'Textbook of Medical Physiology', London, W.B. Saunders & Co.
3. Ross & Wilson- Anatomy & Physiology in Health & Illness- Anne Waugh & Alliso Grant International Edn.



## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Soft Core	SEM-I	SCDDN 1.2	Research Methodology	No. of Credits: 04
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Course objective: - This course is designed to give the basic knowledge about research

Course outcome: - After completion of course they can carry out research in field of diet and nutrition

### Unit 1:

1. Types of Research Methods Historical Survey & Experimental Research.
2. Meaning and Definition of Research, Steps of scientific research, Characteristic of Research Design, Objectives, Importance of Research Design.
3. Formulation of Hypothesis – Sources of Hypothesis.
4. Characteristics of good Hypothesis, Importance and Types of Hypothesis.
5. Variables: Importance and Types.
6. Qualities of good research Worker
7. Research Writing, Preparation of report, objectives of research report, Content of good report, steps in report writing. Importance of Report writing, Bibliography, Preparation of an abstract and research paper for publication.

### Unit 2-

1. Definition of Sample, Characteristics of good sample. Difference between census and sample. Difference between census and sample, Main steps of sampling, Advantages of Sampling, Limitations of sampling, Size of sample, Methods of Sampling Techniques.
2. Data Collection- Definition Importance and Types of data, sources of data, Methods of data collection their merits & Demerits.
3. Classification of data- Definition, Characteristics and objectives of Classification, Types of Classification, Characteristics of ideal Classification.
4. Tabulation of data- Definition, objectives of the Tabulation, Characteristics of a good table, Types of Tables , Rules and Precautions while Preparing Tables .advantages of tabulation

### Unit 3-

1. Measures of Central Tendency- Mean, Mode, Median.
2. Concept of Deviation, Range, Quartile Deviation, Standard Deviation.
3. Correlation- Coefficient of Correlation, Rank Correlation, Karl Pearson's Coefficient of Correlation.

### Unit 4-

1. Association of Attributes
2. Graphical and Diagrammatic Representation- Types of graphs, importance of graphical representation, Objectives of Diagrams. Merits of Diagrammatic Representation, Limitations, Characteristics of Diagrammatic representation.
3. Parametric Tests
4. Non Parametric Tests

### Reference books

1. Research Methodology: Methods And Techniques by [C.R. Kothari](#) (Author), [Gaurav Garg](#) (Author)  
New Age International Publishers

**PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22**

<b>Hard Core</b>	<b>SEM-I</b>	<b>HCPDN 1.1</b>	<b>Nutrition &amp; Dietetics Practical-I</b>	<b>No of Credits : 04</b>
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**Unit 1**

- Weights & Measures- Raw Food & Cooked Food
- Recipes of Soups

**Unit 2**

- Recipes of Snacks & Breakfasts

**Unit 3**

- Recipes of Full Day Meal
- Recipes of Sweet Dish

**Unit 4**

- Therapeutic & Innovative Recipes

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Hard Core	SEM-II	HCDDN 2.1	Nutrition & Dietetics II	No of Credits : 04
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CSO:- To impart the Knowledge about the importance of therapeutic diet.

### Unit 1-

Energy imbalance- underweight & obesity

Gastrointestinal diseases:-Diarrhea & constipation, peptic ulcer & gastritis, ulcerative colitis, regional enteritis, tropical & non tropical sprue, Diverticular diseases, Crohn's diseases, acute appendicitis

### Unit 2

Diseases of metabolic disorder:-Diabetes mellitus with Insulin, hypoglycemic drugs, Arthritis & gout.

Fever:-Metabolic changes during fever, typhoid, Influenza & Tuberculosis, Rheumatic fever.

Liver Diseases & gall bladder diseases:-Hepatitis, cirrhosis, Hepatic coma & pre-coma, cholelithiasis, cholecystitis.

### Unit 3

Kidney diseases:-Acute Glomerular nephritis, nephrotic syndrome & chronic renal failure, renal calculi dialysis.

Cardiovascular diseases:-Hypertension, atherosclerosis, Angina pectoris, IHD, Hyperlipidemia.

Diseases of nervous system:-Polyneuropathy, anorexia nervosa, Bulimia & alcoholism.

### Unit 4

Nutritional needs in different physiological conditions:- Dietary management in surgical conditions, trauma, burns, allergies, cancer & AIDS, Anaemia Drug & Nutrient Interaction, Sports nutrition.

### Reference Books:-

1. Robinson 'Normal and therapeutic nutrition' New Delhi, TATA McGraw Hill Publication
2. Antia F.P,'Clinical Dietetics and Nutrition'. Bombay
3. Joshi S.A. 'Nutrition and dietetics', New Delhi, TATA McGraw Hill Publication Co. Ltd. 4] Crampton E.W. and L.E. Lloyd, 'Fundamentals of nutrition', W.H. Freeman.
4. B.Srilakshmi'Dietetics', New Age International Publishers.
5. Davidson S.R, Passmore and IF. Brock,'Human Nutrition', Churchill, Livingstone. Anderson, Liennea, Dibble, Majorie, Turkki, P.R. Mitchell, Helen and Rynbergen,
6. Henderika Nutrition in Health and disease" 17th edition J.B. Lippincott Co. Philadelphia. 8]Gopalan C. , Rama Shastri, B.V. & Balasubramanian S.C.; Revised and updated by Narsingh Rao B.S. Deosthale, Y.G. & Pant, K.C."Nutritive value of Indian Foods" 2nd Ed. National Institute of nutrition, Hyderabad.
7. Kinney, J.M. ; Jeejeebhoy K.N. Hill G.L. and Owner, O.E. Nutrition and Metabolism in patient Care" W.B. Saunders and Co.,Philadelphia.
8. Krause, Marie, V. and Mahan, Kathleen, L. Food , Nutrition and Diet Therapy – A textbook of Nutritional Care, 7th Ed. W.B. Saunders Co.Philadelphia.

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

<b>Hard Core</b>	<b>SEM-II</b>	<b>HCDDN 2.2</b>	<b>Food Science &amp; Food Microbiology</b>	<b>No of Credits : 04</b>
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CSO:-To understand food safety measures, impact and importance of cooking of food.

### **Unit 1**

Cooking method:-objectives, cooking methods, preparatory food acceptability procedures & sensory evaluation.

Nutritive value of different food groups ,their general structures & changes due to cooking in the following food groups, milk & milk products, eggs, meat, poultry, fish.

### **Unit 2**

Food groups:-Nutritive value of different food groups, their general structure & changes due to cooking in the following food groups- Cereals & cereal products, Pulses & legumes, Fruits & Vegetables, Sugar & confectionary, Beverages, Condiments & spices, Nuts & Dried fruits.

### **Unit 3**

Contamination of food:-classification of toxicants in details Safe food preparation practices, Detection of food adulteration, Fermentation -Advantages & uses of it, Leavening agent, Food additives.

### **Unit 4**

Food Preservation & food spoilage:-Definition, importance & principles of food preservation. Factors contributing to food spoilage. Methods of food preservation, packaging materials, bottling & canning.Changes in nutritional needs complication

### **Reference Books:**

1. Antia F.P (1986)'Clinical Dietetics and Nutrition'. Bombay
2. General Microbiology- Powar
3. Food Microbiology- Frazier and Westhoff
4. Microbiology- Prescott, Harley, Klein
5. Food Microbiology – Adams
6. An Introduction of microbiology – P.Tauro
7. General Microbiology – Stainer
8. Food Microbiology- James M. H Jay
9. Food Hygiene, Microbiology and HACCP- 3rd edition – S.J. Forsythe & P.R. Haynes
10. Potter N N- Food Science, CBS Publishers, New Delhi

**PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22**

<b>Soft Core</b>	<b>SEM-II</b>	<b>SCDDN 2.1</b>	<b>Sports Nutrition</b>	<b>No. of Credits: 04</b>
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**Course objective:** - This course is designed to give the basic knowledge and description of different types of sports and dietary requirement

**Course outcome:** - After completion of course they can plan diet for different type of athletes.

**Unit 1-**

Anatomy & Metabolism Determine Nutrient Needs

- 1 Anatomy of an athletic cells, tissues & System.
- 2 Digestion and absorption
- 3 Body composition and metabolism
- 4 Anaerobic and aerobic energy system

**Unit 2-**

1 Fitness & Performance Nutrition Approaches

- 2 Athletic guide to effective fat loss Muscle.
- 3 carbohydrate and athletes performance
- 4 Proteins & amino acids
- 5 Lipids & the Athletics

**Unit 3-**

Aerobic Endurance Supplements

- 1 Enhancing Performance with Carbohydrate Loading.
- 2 Metabolic & Botanical Ergogenic Supplements.
- 3 Amino acids & Proteins for aerobic endurance athletics.
- 4 Caffeine
- 5 Sodium Bicarbonate & Citrate
- 6 Strength & Power Supplements

**Unit 4-**

1 Nutrient Timing

- 2 Water & Oxygen
- 3 Nutritional Needs analysis.

**References-**

1. NSCA'S Guide & Marie A. Spano, Publication – Human Kinetics
2. Sports Nutrition – Dan Gastelee & Frederic C. Hatfield, Publication- International Sports Sciences Association

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Soft Core	SEM-II	SCDDN 2.2	Food Service Management & Community Nutrition	No. of Credits: 04
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CSO: -To enable the Students to understand Nutrition and Health situations in community & to give students a basic understanding of the principles of management to apply in food service administration and menu planning.

### Unit 1

Fundamentals of management:- Principles, Functions and tools of management, Management of resources. Review of commercial and non-commercial food service organizations and their development. Meal planning in Institutions: – Basic factors in Institutional meal planning – Menu, Types of Menu, and Menus for different commercial and non-commercial organizations (Hospital, Club, Industrial and Institutional Canteen, Prison, Hotel, Hostel, Orphanage, Transport) Space Equipment: – Planning and Organization for Kitchen, Stores and service area. Food Service and Inventory management - Food purchasing, receiving, storing, issuing and Inventory management Organization:- Organizational chart , organizational chart of Dietary management, line of staff, Authority ,Responsibility, Delegation of Authority, Centralization and Decentralization of Food Service.

### Unit 2

Personnel Management and Service management: – Manpower planning, Recruitment, Selection, Induction, Performance Appraisal, Training Development. Table service, Dining room management, Delivery and service of food in different systems Financial management: –Costing and Budgeting, pricing, Food and beverage cost control, Maintenance of Accounts. Food Production and equipment used in food service: – Production planning, methods of food production, types of food and beverage service, clearing, cleaning and waste management. Factors affecting selection of equipment, Features to note during purchase of equipment, Classification of food service Equipment Floor Planning and Lay out:-Factors to consider in floor planning related to type of food service. Lay out Design-Space Allowances, space relationship, basic and ideal requirements for each work area.

### Unit 3

Concept of Health and Nutritional Problems: - Concept of Nutrition and public health nutrition, Scope of public health nutrition, Nutritional Problems in India, Causes and its Remedies, Malnutrition-Definition, over nutrition, under nutrition, Optimum Nutrition National and International Agencies working to combat malnutrition:-National Agencies- NIN, CFTRI, ICMR, International Agencies – WHO, UNICEF, ICAR, FAO Applied Nutritional Programs—SNP, ANP, ICDS Assessment of Nutritional Status: –Nutritional Assessment of Community ,Methods of Assessment of Nutritional Status -Anthropometric measurements, Clinical methods, Biochemical method, Biophysical method , Vital statistics. Diet Surveys –Population sampling, and duration of survey, Diet survey methods, questionnaire, Food list method, Interview method, Food Inventory of log book method, Weighing of raw food , Weighing of cooked food, Analysis of cooked food method.

### Unit 4

Diet and Nutrition in India: –Population and food production, Nutritional Adequacies of diets, Food needs and food Availability, Research and education in Nutrition and food Science. Food fads and fallacies: –Importance and ways of effective communication and community participation in any nutrition education program .Food and the future-Genetically modified foods, Organic foods. Emerging trends in Food Technology:-Biotechnology in food, Bio fortification, Nutraceuticals, Low cost nutrient supplements, Processed and convenience food Nutrition Education:- Definition, Objectives, Importance, Methods of Nutrition Education, Planning for nutrition and health education, Techniques of nutrition education

## Reference Books

1. Food Services in Institutions –Wood
2. Food service in Institutions –West, Bessin, Brooks 3] Food Selection and Preparations – Sweetman,
3. Food service in Institutions – Harger V P, Shugart G.SS. And Palacio J.P., Macmillan Publishing co. New York
4. Foods and Beverage control –Kotas R. and Davis B. 1981, International textbook company. Ltd. Glasgow
5. Food Science –B. Srilakshmi
6. Food Facts AND Principles – N. Sakuntala Manay, M.Shadaksharaswamy
7. Advanced textbook on food and Nutrition-9Vol. 1 and 2) M. Swami Nathan, the Bangalore Printing and Publishing co.

## PGDDN Semester I Choice Based Credit System (CBCS) Syllabus w. e. f. 2021-22

Hard Core	SEM-II	HCPDN 1.1	Nutrition & Dietetics Practical-II	No of Credits : 04
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### Unit 1

- Diet plan for underweight & obesity
- Diet plan for Gastro-intestinal diseases- Diarrhea & Constipation, Peptic Ulcer, Gastritis, Ulcerative Colitis, Gastroenteritis, Tropical & Non Tropical Sprue, Diverticular Disease, Chron's disease, Acute Appendicitis

### Unit 2

- Diet plan for metabolic disorders-
  - Diabetes
  - Arthritis & Gout
- Diet plan for Fever
  - Typhoid
  - Influenza & Tuberculosis
  - Rheumatic Fever
- Diet plan for Liver & Gall Bladder Diseases

### Unit 3

- Diet plan for Renal Diseases
- Diet plan for Cardiovascular Diseases
- Diet plan for Nervous System Diseases

### Unit 4

- Diet plan for nutritional needs in different physiological conditions



- **Examination Pattern**

Theory paper-	80 marks
Internal- Seminar + Assignments	20 Marks
Total	100 Marks

- **Theory Exam**

Each theory paper will be of 80 marks. Distribution of marks will be as follows.

Question	Type	Description	Marks
1	Multiple Choice Question- 20 MCQs	Total 20 MCQs with each question carrying 1 mark	20 Marks
2	Write Short Notes on Any 4 out of 5.	Each short note carries 5 marks	20 Marks
3	Long Answer Question- Write any 2 out of 3	Each question carries 10 marks	20 Marks
4	Essay Type Full Question – Write any one out of two	Question carries 20 Marks	20 Marks
			<b>80 Marks</b>

Passing marks as per prevalent rules of University

For theory Internal Marks 20- Seminar Presentation 10 Marks + Assignments 10 Marks

**Semester I Practical Exam Structure**

Internal- 20 Marks

External- 80 marks

Sr. No	Content	Marks
1	Record Book (Internal)	20
2	Weight and measures	20
3	Cooking	30
4	Viva	30
		100

**Semester II Practical Exam Structure**

Sr. No	Content	Marks
1	Diet File	100
2	Viva	20
3	Diet plan	30
		150

Internship will consists of visits to different places such as hospitals, school & anagnwadis, community kitchens, shopping malls, gyms and sports institutes, hostels etc.

For projects, research supervisor will allocate a topic to individual student or group of students in second semester and students has to submit the project before the exam.

Course Code	Course Title	Course Specific Objectives	Course Specific Outcome
<b>SEM I</b>			
HCDDN 1.1	Nutrition & Dietetics I	Develop the concept of balanced diet and role of diet in different physiological conditions. This course is designed to give the basic knowledge and description of body composition, determining own calorific values. This course will be helpful to students to obtain an understanding of different food groups and different modes of feeding.	After completion of the course student will be able to explain role of diet in different physiological conditions, understanding food groups, exchange list and different modes of feeding which will help them while planning a diet.
HCDDN 1.2	Nutritional Biochemistry	Understand the metabolism of nutrient in health and diseases. Understand role of nutrients and their deficiencies.	After completion of the course student will be able to explain different nutrients function and metabolism which will to build foundation for planning diet according to diseases.
SCDDN 1.1	Human Physiology	To understand the structure & composition of human body.	After completion of the course student will be able to explain different physiological functions of different organs systems which will help them to understand diseases better and accordingly plan diet.
SCDDN 1.2	Research Methodology	This course is designed to give the basic knowledge about research	After completion of course they can carry out research in field of diet and nutrition
<b>SEM-II</b>			
HCDDN 2.1	Nutrition & Dietetics II	Know the importance of therapeutic diet. Knowledge about dietary control of different diseases	After completion of this course student will have a clear picture of different diseases and what diet will suit according to diseases which will help them to plan a diet.
HCDDN 2.2	Food Service & Food Microbiology	To understand food safety measures. Impact and importance of cooking of food.	After completion of course students can explain different types of cooking and alteration occurring in foods during storage and processing which will help them while diet counseling and diet planning.

SCDDN 2.1	Sports Nutrition	This course is designed to give the basic knowledge and description of different types of sports and dietary requirement	After completion of course they can plan diet for different type of athletes.
SCDDN 2.2	Food Service Management & Community Nutrition	To enable the Students to understand Nutrition and Health situations in community. To give students a basic understanding of the principles of management to apply in food service administration and menu planning.	After completion of course they explain management of resources in food service organization ,different menu planning, organization chart , Manpower planning, Recruitment, Production planning, methods of food production, types of food and beverage service, clearing, cleaning , waste management and public health nutrition and malnutrition.