AY 2020-21 Onwards

Hindi Vidya Prachar Samiti's

RAMNIRANJAN JHUNJHUNWALA COLLEGE (AUTONOMOUS)

(Also known as R. J. College of Arts, Science & Commerce as per UGC Notification)

Affiliated to UNIVERSITY OF MUMBAI II Recognized by UGC under 2f & 12B

NAAC Accredited 'A GRADE' with CGPA 3.50

Knowledge is all Ambrosia

A T S M C

Postgraduate Diploma in

Dietetics & Applied Nutrition

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Opposite Railway Station, Ghatkopar (W), Mumbai 400 086, Maharashtra, INDIA.

Hindi Vidya Prachar Samiti's

RamniranjanJhunjhunwala College

Of Arts, Science & Commerce

(Autonomous College)

Affiliated to
UNIVERSITY OF MUMBAI

Syllabus for the Post Graduate Diploma

Program: Post Graduate Diploma

Dietetics and Applied Nutrition

Program Code: RJSPGDDAN

(Revised Syllabus Academic year 2020-2021)

Post Graduate Diploma Dietetics and Applied Nutrition

Post Graduate Diploma in

Post Graduate in Dietetics and Applied Nutrition

(Program Code: RJSPGDDAN)

Preamble:

A balanced diet with all the key nutrients is the key to good health. With the changing life style and rapid pace of life has resulted in people consuming ready made and ready to cook food resulting in sudden increase in life style diseases, malnutrition, early ageing and age related disorders. The only way to avoid these disorders to start eating healthy and a balanced diet at regular intervals. Food occupies an important space in the life of any individual but to live a healthy life one needs to follow a regime of healthy diet.

A balanced diet is essential for providing proper nutrition to the development of a child to grow as a normal healthy adult. Healthy diet ensures less number of individuals falling sick thus saving man hours lost by absenteeism. Let food be thy medicine is a popular saying which will ensure a healthy society. The Program ensures that the learner will acquire in depth knowledge of human physiology, clinical nutrition, organization skills, plan a diet as per individual requirement, handle diseases with the help of diet plan for patients

Program Objectives and Outcomes:

- To enable the students to understand the functions of the body in health and its adaptation to changed conditions.
- To enable the students to understand the implications of dietary modifications on the functioning of the various systems.
- To create a better understanding of the basic aspects of human nutrition by providing information on the current concepts of nutritional principles
- To give a simple account of the metabolism and functions of the major dietary constituents and their nutritional and clinical importance.
- To study the interrelationships between nutrients along with their recommended allowances and food sources so as to enable students to become aware of the importance of a balanced diet based on sound nutritional principles.

Post Graduate Diploma Dietetics and Applied Nutrition

- To enable the students to understand Nutrition and Health situations in India.
- Their role as a dietitian in improving the nutritional and Health Status of the vulnerable groups and the overall community. Acquire skills in assessing Nutritional status of the people, skills in communications and planning, organizing abilities required for conducting nutrition education programmes. Develop the right attitudes towards working in the communities.
- To give students a basic understanding of the principles of management to apply them in food-service administration. To help the student understand what the basic tools of management are and their application in different types of food service institutions.To make the students aware of the methods of work improvement to increase productivity and efficiency. To enable the students to have a basic knowledge of menus, planning menus, standardizing menus and stepping up recipes.
- Study of the etiology, clinical symptoms and treatment with emphasis to dietary management
- Acquire knowledge about the causes, symptoms and the effect of various diseases on dietary requirements.
- Modify the normal diet for disease conditions based on the pathophysiology.
- Understand the role of the dietitian in the dietary treatment of the patients.

Title: Post Graduate Diploma in Dietetics and Applied Nutrition

Eligibility: A candidate to be eligible for admission to the post graduate Diploma must have taken Bachelor of Science (Home Science) with specialization food, Nutrition& Dietetics, Bachelor of Science (Home Science general) Bachelor of Science of Microbiology/Biochemistry/Life Science/ Botany/Zoology/ Biotechnology, Bachelor of Nursing or an equivalent degree any medical degree in allopathic or alternative medicine.

Duration of the Course: One Year Blended teaching on weekends

Fee Structure:

Tuition Fee	:	25,000.00
RFID	:	150.00

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Examination Fees : 500.00

Application form fees : Rs 100.00

Intake capacity: 40 students

Faculty: Drawn from Industry and Academia Proficient in areas of Human Physiology, Diet and Nutrition.

Standard of Passing:
A student to be declared as Pass must obtain 40 % marks

Medium of Instruction	:	English
Internship	:	Compulsory for obtaining the PG Diploma minimum of two months duration

Scheme of Evaluation:

There would be continuous evaluation with Internal assessment consisting of multiple choice questions, quiz, presentation, assignments 40% weightage

External Evaluation: Subjective with 60%weightage

Hospital Internship: For a period of at least two months in hospitals, students are expected to collect six case histories and submit a report. One of the case histories should be presented and the presentations should be evaluate

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POST-GRADUATE DIPLOMA IN DIETETICS AND APPLIED NUTRITION (RJSPGDDAN)

Semester I

Course Code	Subject	Periods /week	Semester End Exam Marks	Internal Marks	Total Marks	Credits
PSDDAN101	Physiology	2	60	40	100	3
PSDDAN102	Basic Nutrition	3	60	40	100	3
PSDDAN103	Applied Nutrition and Public Health	2	60	40	100	3
PSDDAN104	Foods and Dietetics	3	60	40	100	3
PSDDAN105	Food Service Management	3	60	40	100	3
PSDDAN106	Clinical Nutrition	3	60	40	100	3
PSDDANP101	Diet Therapy	8	100	--	100	2
PSDDANP102	Clinical Testing	3	50	--	50	2
PSDDANP103	Applied Nutrition Field Work/Survey	2	50	---	50	2
Total					**800**	**24**

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Course Code	Title	Periods /week	Marks	Credits
PSDDAN101	PHYSIOLOGY	2	100	3

S. No.	Course Content	Periods
Unit I	Brief introduction to the structure of the cell and tissues Digestive System: Nature and functions of the gastro-intestinal tract, namely the elementary canal, mouth, stomach, small intestine, large intestine, colon, liver, pancreas and gall bladder. Cardio-vascular system: Anatomy and Physiology of the heart and blood vessels, blood circulation, composition of blood, regulations of blood pressure, ECG	15
Unit II	Excretory System: Renal: Mechanism of urine formation, fluid and electrolyte balance. Endocrine system: Brief review of the hormones secreted by endocrine glands and their effects on metabolism and associated disorders	15

References

- Guyton, A.C. (1986) Textbook of Medical Physiology,
- Saunders Company. Best and Taylor, (1975) The living Body.
- Chapman and Hall Ltd., London.
- Chatterjee C. C. (1988). Human Physiology, 10th Edition, Medical Allied Agency.
- Tortora G.J. and Anagnostakos N.P. (1990). Principles of Anatomy and Physiology, 6th Edition. Harper and Row

Course Code	Title	Periods /week	Marks	Credits
PSDDAN102	BASIC NUTRITION	3	100	3

S. No.	Course Content	Periods
Unit I	Introduction: Concept of Nutrition, Relation of nutrition to health, Adequate nutrition, optimum nutrition and malnutrition, The emergence, scope and methodology of Nutrition as a Science Energy Metabolism: Physiology fuel value, Direct and Indirect Calorimetry, Basal and Resting metabolism, Total energy requirement and it's modification under normal physiological and other stress conditions.	15
Unit II	**Carbohydrates** Classification and functions Digestion, Absorption, transport, storage and utilization Clinical and nutritional significance of carbohydrates Classification of dietary fibre and its clinical significance **Lipids:** Classification and functions, Digestion, absorption, transport, utilization and storage, Role of essential fatty acids, PUFAs, MUFAs, Clinical and Nutritional significance, Synthesis and clinical significance of prostaglandins, Cholesterol synthesis regulation of cholesterol metabolism	15
Unit III	**Proteins** Classifications of amino acids and proteins, Review of digestion, absorption, transport and utilization, Evaluation of protein quality by assessment of digestability coefficient, biological value, protein efficiency ratio, NDP cal. Percent and Net Protein utilization. Supplementary value of proteins. Sources, recommended allowances and deficiency diseases Amino acid toxicity and imbalance	15

References

1. Anderson L., Dibble M., Turkki P., Mitchell H. and Rynbergen H. 1982, Nutrition in Health and Disease. 17th Edition J.B. Lippincott Company. Philadelphia, Toronto.
2. Davidson S., Passmore R. and Brock J.F., (1986), Human Nutrition and Dietetics, Churchill

Livngstone, Edinburg. Devlin T.M., (1986), Textbook of Biochemistry with clinical correlations (2nd Edition), John Wiley.
3. Goodhart R.S. and ShilsM.e. (Ed), (1994). Modern Nutrition in Health and Disease, Lea and Febiger, Phila.
4. Gopalan C., Rasma Sastri B.V. and Balasubramanian S.C., 1989.Nutritive Value of Indian Foods. 2nd Edition ICMR Offset Press, New Delhi.
5. Krause M.V. and Mahan K. 1984 – Foods, Nutrition and Diet Therapy. 7th Edition, W.B.
6. Saunders Company U.S.A. Lehinger A.L., (1984), Principles of Biochemistry. Worth Publishers
7. New York.
8. Machlin L.J. (1984) Ed., Hardbook of Vitamins – Nutritional, Biochemistry and Clinical
9. Aspects, M. Dekker, New York.
10. Pike R.L. and Brown M.L. (1984), Nutrition – An Integrated Approach, John
11. Wiley, New York. Rajalakshmi, (1987), Applied Nutrition, Oxford/IBH

Course Code	Title	Periods /week	Marks	Credits
PSDDAN103	APPLIED NUTRITION AND PUBLIC HEALTH	2	100	3

S. No.	Course Content	Periods
Unit I	Concept of Health, Nutrition and Public Health Nutrition Demographic trends in India and the significance of certain indices of Health and Nutrition situation of a community. (IMR, MMR, TFR, Birth rate, Death rate, Life expectancy etc.)Major Nutritional problems in developing countries – PEM, Night blindness, Nutritional anaemia, Endemic, Goitre, Rickets, Osteomaleria, Beriberi, Pellagra etc.	15
Unit II	Dietary surveys – methods, ways of interpretations, and analysis, recommendations based on survey findings	15
Unit III	Assessment of Nutritional status – Nutritional Anthropometry, Biochemical assessment and observations for clinical signs – Interpretations of the result, comparisons with the standards, suggestions/ recommendations – growth monitoring for children below 10 years.	15

Course Code	Title	Periods/ week	Marks	Credits
PSDDAN104	FOODS AND DIETETICS	3	100	3

S. No.	Course Content	Periods
Unit I	Objectives of cooking food Methods of cooking food Food acceptability and sensory evaluation Nutritive value of different food groups and changes due to cooking in the following food groups: Milk and Milk products, eggs, meat, poultry, sea food,	15
Unit II	Nutritive value of different food groups and charges due to cooking in the following food groups: Cereals and cereal products pulses and legumes, fruits, vegetables, sugar and confectionary, beverages, spices and condiments.	15
Unit III	Storage of foods. Food quality and factors affecting food quality. Control of food quality Use of food additives – Classification and applications	15

References

1. Barbara Luke (19860 Principles of Nutrition and Diet Therapy, Little, Brown and Company, Boston Eva Medved (1986) Food – Preparation and theory, Prentice – Hall, Inc. Englewood Cliffs, New Jersey.

2. Marion Bennion and Osee Hughes (1985) introductory Foods (6th Edition) Macmillan Publishing Co., Inc. New York. Collier Macmillan Publishers, London.
3. Norman N. Potter (1986) Food Science 4th Edition Van Nostrand Reinhold Company, New York.
4. Shakuntal N. Manay and Shadaksharaswamy M. (1987) Foods – Facts and Principles, Wiley Eastern Limited.

Course Code	Title	Periods /week	Marks	Credits
PSDDAN105	FOOD SERVICE MANAGEMENT IN HOSPITALS AND OTHER INSTITUTIONS	3	100	3

S.No.	Course Content	Periods
Unit I	**Organisation And Management** Theories of Organisation Steps to start an Organization Types of Organizations (Food Service Institutions) Functions and tools of Management Hierarchy of management – top, middle, lower and the characteristics of each level. Role of supervisions in handling employees Qualities and skills for administrative leadership Professional and trade association in India pertaining to food-service / catering.	15
Unit II	**Food Service Institution** Categorization of food service institutions and their respective characteristics Factors affecting the development of food service institutions. Hotels / Hospitals as formal organization. Menus – factors to consider while planning menus, steps to plan a menu, menu design and evaluation; types of menus. Standardization of recipes – meaning advantages, methods used to standardize and step up recipes, how to develop a score card. Food service – types of food services systems and their characteristics: styles of service used, Management of food service.	15
Unit III	**Personnel Management** Employment Process – recruitment, selection, orientation, training, methods used for performance appraisal. Procedures relating to promotions, transfers, handling grievances and disciplinary action. Labour policies, financial and non-financial benefits given to employees Labour Management Relations – unionization and how to tackle it. Labour laws pertaining to the food service industry. Methods used for Work Improvement and suggestions for its application	15

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References

1. Auratramani P; 1982 "Catering Management for Indian Hotels".Sudarshan Art Printing Press, Bombay. Betram P; 1975 "Fast Food Operations" Barrie and Jenkins Ltd. London.
2. Davis B. and Stone S. 1985 "Food and Beverage Management" William Heinemann Ltd. London.
3. Department of Health and Social Security Scottish Home and Health Department Northern Ireland, 1974 "Clean Catering" Her Majesty's Stationery Office, London.

Course Code	Title	Periods /week	Marks	Credits
PSDDAN106	CLINICAL NUTRITION	3	100	4

S. No.	Course Content	Periods
Unit I	Role of a dietitian: Education and personal qualifications, role and responsibilities of a dietitian, nutrition counseling, professional ethics and obligations. Career opportunities for dietitians. Diet Therapy – rationale for diet therapy (The normal diet, Modifications of the diet to the light diet, soft diet, full liquid diet, clear liquid diet, Tube feedings); Routes for diet therapy – enteral and parental; use of biochemical parameters in the planning of diets, Use of computers in the planning of diets and hospital administration.	15
Unit II	Obesity and underweight, Diabetes mellitus, Gastro-Intestinal diseases: Reflux aesophagitis and hiatal hernia, Diarrhea and constipation, Peptic ulcers, Ulcerative colitis, Regional enteritis, Tropical and non-tropical spru, Diverticular disease, Intestinal obstruction and acute appendicitis, Lactose intolerance	15
Unit III	Diseases of the circulatory system: Hypertension, Atherosclerosis, Angina pectoris, IHD,Hyperlipidmias	15

References

1. Anderson, Liennea, Dibble, Marjorie, Turkki, P.R.; Mitchell, Helen &Rynbergen, Henderika (1982) "Nutrition in Health and Disease" 17th Edition J.B. Lippincott Co. Philadelphia.
2. Antia, F.P. (1989) "Clinical Dietetics and nutrition" 3rd Edition Oxford University Press, Bombay. Bennion Marion (1979) "Clinical Nutrition" Harper and Row Publishers Inc., New York.
3. Shah, S.J. (editor-in-chief) (1986) "A.P.I. Textbook of Medicine" 4th ed. Association of Physicians of India, Bombay.
4. Williams, Sue (1978) "Self-study guide for Nutrition and Diet therapy" 2nded. The C.V. Mosby Company, Saint Louis.
5. Zeeman, Frances, J. and Ney, Denise, M. (1988) "Applications of Clinical Nutrition" Prentice hall, New Jersey.

Course Code	Title	Periods /week	Marks	Credits
PSDDANP 101	DIET THERAPY	8	100	2

S. No.	Course Content	Periods
Unit I	Standardization of portion sizes, Preparation of normal diets served in hospitals,	15
Unit II	Modification of normal diets to liquid diets, soft diets, full liquid diet, clear liquid diet, tube feeding.	15
Unit III	**Dietary Management in the treatment of following conditions** Obesity and underweight, Low Calorie diets, Child and Adult weight reduction	15
Unit IV	**Diabetes Mellitus,** without Insulin, with Insulin, with insulin – adult & juvenile, diabetes in pregnancy, Hypo-glycemic conditions.	15
Unit V	**G.I. diseases:** Diarrhoea and Constipation, Peptic Ulcer, Lactose intolerance, Ulcerate colitis, Conditions of intestinal obstruction and acute appendicitis, Hiatus Hernia	15
Unit VI	**Diseases of the circulatory system:** Hypertension, Atherosclerosis, Angina Pectoris, IHD, Low Calorie, low cholesterol and low sodium diets for acute and chronic conditions	15

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Course Code	Title	Periods /week	Marks	Credits
PSDDANP102	CLINICAL TESTING AND FOOD ANALYSIS BY INTERPRETING CLINICAL DATA	3	50	2

S. No.	Course Content	Periods
Unit I	Standardization of acids and alkalies, Blood collection and preservation, Preparation of anticoagulants, Techiniques for determining bleeding time and clotting time, Determination of Hb, ESR, MCV, PCV and WBC, RBC count, Determination of blood pressure.	15
Unit II	Estimation of: Serum iron, protein, BUN, bilirubin, triglycerides, SGOT, SGPT. Estimation of blood glucose and glucose tolerance test, Detection of normal and abnormal constituents of urine.	15
Unit III	Estimation of ascorbic acid in urine and ascorbic acid load test. Estimation of creatinine in blood and urine., Estimation of Na & K (demonstration) by flame photometer	15

Course Code	Title	Periods /week	Marks	Credits
PSDDANP103	APPLIED NUTRITION AND PUBLIC HEALTH	2	50	2

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Semester II

Course Code	Subject	Perios/ week	Semester End Exam Marks	Internal Marks	Total Marks	Credits
PSDDAN201	Physiology	2	60	40	100	3
PSDDAN202	Basic Nutrition	3	60	40	100	3
PSDDAN203	Applied Nutrition and Public Health	2	60	40	100	3
PSDDAN204	Foods and Dietetics	3	60	40	100	3
PSDDAN205	Food Service Management	3	60	40	100	3
PSDDAN206	Clinical Nutrition	3	60	40	100	3
PSDDANP201	Diet Therapy	8	100	--	100	2
PSDDANP202	Food Analysis	3	50	--	50	2
PSDDANP203	Applied Nutrition and Public Health Part A: Field Work	2	50	---	50	2
	Part B: Rural Camp	3 Working days in the year				
	Part C: Hospital Internship	2 months				
Total					**800**	**24**

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Course Code	Title	Periods /week	Marks	Credits
PSDDAN201	PHYSIOLOGY	2	100	3

S. No.	Contents	Periods
Unit I	Reproductive system: Physiology of menstruation pregnancy and lactation. Respiratory System : Mechanism of respiration, Acid-base balance	15
Unit II	Nervous System:- The introduction to central and autonomic nervous system, fundamental principles of nervous control, reflex actions, regulations by higher centres Musculo-Skeletal System: Structure and classification of bones. Axial and Appendicular skeletal structure, voluntary and involuntary muscles, physiology of contraction and relaxation of muscles	15

References

1. Best and Taylor, (1975), The living Body. Chapman and Hall Ltd., London Chatterjee C.C. (1988). Human Physiology, 10th Edition, Medical Allied Agency Guyton A.C., (1986), Textbook of Medical Physiology, Saunders Company
2. Tortora G.J. and Anagnostakos N.P. (1990). Principles of Anatomy and Physiology, 6th Edition.
3. Harper and Row

Course Code	Title	Periods /week	Marks	Credits
PSDDAN202	BASIC NUTRITION	3	100	3

S. No.	Course Content	Periods
Unit I	**Vitamins:** Physiological and biochemical role of fat and water soluble vitamins, sources, Digestion, absorption, transport, utilization, disposal and storage, Requirements and recommended allowances under normal and stress conditions, Effects of deficiency and excess.	15
Unit II	**Minerals:** Classification of macro and micro nutrients along with their physiological and biochemical role. Absorption, utilization and distribution in the body. Food sources and recommended allowances. Effects of deficiency and excess in the diet.	15
Unit III	**Fluid and electrolyte balance:** Total body water as well as content of intracellular and extracellular fluid Water loss and balance, Role of hormones in water balance, water intoxication, Interrelationship of body fluids. **Acid base balance – Body water and functions of water:** Distribution of body water, Water balance and elimination, Electrolytes: their functions, absorption, excretion, recommended intake and sources. **Interrelationships between nutrients** Protein and energy, Protein, Fat, Carbohydrates Vitamin D, Calcium and Parathyroid hormone, Vitamin E and PUFAs, Vitamin C and Iron Vitamin B12 and Folic acid.	15

References

1. Anderson L., Dibble M., Turkki P., Mitchell H. and Rynbergen H. 1982, Nutrition in Health and Disease. 17th Edition J.B. Lippincott Company. Philadelphia, Toronto.
2. Davidson S., Passmore R. and Brock J.F., (1986), Human Nutrition and Dietetics, Churchill Livngstone, Edinburg. Devlin T.M., (1986), Textbook of Biochemistry with clinical correlations (2nd Edition), John Wiley.

Post Graduate Diploma Dietetics and Applied Nutrition

Course Code	Title	Periods /week	Marks	Credits
PSDDAN203	APPLIED NUTRITION AND PUBLIC HEALTH	2	100	3

S. No.	Course Content	Periods
Unit I	Health and Nutrition policies of the Govt. and their implementation – problems encountered. Impact of following factors on food consumption and nutritional status of people – Agricultural production, storage distributions, population, science and technology, socio- cultural and economic factors. Steps taken by the Govt. and N.G.O.'s to overcome the problem faced due to the above factors	15
Unit II	Nutrition feeding Programmes in India and their role in Improving Nutritional status of the weaker sections and vulnerable groups of any community – ANP, SNP, BNP, ICDS, MDM, Vit a prophylaxis, Goitre and anaemic control etc. National and International agencies involved in promoting Nutrition and health status of a community – UNICEF, FAO, WHO, CARE, NIN, CFTRI, ICMR, etc.	15
Unit III	Nutrition Extension and Education – Objectives, plan and methods of nutrition education. Food fads and fallacies. – Importance and ways of effective communication and community participation in any nutrition education programmes. Food adulteration and related laws. Common Food Adulterants, methods of directing them – role of PFA, ISI, AGMARK, INTERNATIONAL CODED, STANDARDS, FSSAI.	15

Course Code	Title	Periods /week	Marks	Credits
PSDDAN204	FOODS AND DIETETICS	3	100	3

S. No.	Course Content	Periods
Unit I	Food spoilage and factors affecting food spoilage Food preservation Methods of preservation – Dehydration, freezing and canning, radiation, use of microwaves, home-scale methods of preservation and fermentation. Use of processed foods and their contribution to the daily diet. Role of packaging in maintaining quality of processed foods.	15
Unit II	Use of processing technology for- Breakfast cereals, Alcoholic beverages, vegetable and fruit products, flesh foods, milk and milk products, egg and egg products.	15
Unit III	Concepts of an adequate diet, food budget proportionate cost of various foods in relation to their nutrient content. Principles involved in Planning diets. Normal Dietetics – Meal planning for the family at various stages of the life cycle – infancy to old age factors, affecting food habits and their modifications, cultural food patterns in India.	15

References

1. Barbara Luke (19860 Principles of Nutrition and Diet Therapy, Little, Brown and Company, Boston Eva Medved (1986) Food – Preparation and theory, Prentice – Hall, Inc. Englewood Cliffs, New Jersey.
2. Marion Bennion and Osee Hughes (1985) introductory Foods (6th Edition) Macmillan Publishing Co., Inc. New York. Collier Macmillan Publishers, London.
3. Norman N. Potter (1986) Food Science 4th Edition Van Nostrand Reinhold Company, New York.
4. Shakuntal N. Manay and Shadaksharaswamy M. (1987) Foods – Facts and Principles, Wiley Eastern Limited

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Course Code	Title	Periods /week	Marks	Credits
PSDDAN205	FOOD SERVICE MANAGEMENT	3	100	3

S. No.	Course Content	Periods
Unit I	**Purchase and Storage** Purchasing – types of markets, marketing channels involved, methods of purchase. Storage – ideal storage requisites for dry and cold storage, arrangement of stores. **Floor Planning and Layout** Factors to consider in floor planning related to type of food service. Layout design – space allowances, space relationships, basic and ideal requirements for each work area Basic principles to follow while drawing out a floor plan.	15
Unit II	**Equipment used in Food Service Organization** Factors affecting selection of equipment Features to note during purchase of equipment Classification of food service equipment: types of equipment found in specific work areas; construction mode of operation and care of major equipment commonly used. Fuels – types used and relative advantages of each. Computer application (robots included) in food service institutions. **Safety and Sanitation** Food Spoilage and types General reasons for food borne disease outbreaks, Common food borne diseases – causes, symptoms, prevention Importance of safety and sanitation Protective measures employed with respect to personnel, layout and equipment to make the work environment hygienic and safe.	15
Unit III	**Financial Management** Elements of cost – food labour, operating costs, gross profit, net profit, relationship of the different costs to sales, break-even analysis. Cost control – factors affecting the different costs, records used. Budget – objective, advantages, steps to plan a budget, types of budget. Basic Accounting Principles – explanation of basic terminology used in accounts, double- entry, book keeping and its advantages, types of accounts, basic books used in accounts, explanation on the use of trial balance, profit and loss statement and balance sheet.	15

References

1. Auratramani P; 1982 "Catering Management for Indian Hotels" Sudarshan Art Printing Press, Bombay. Betram P; 1975 "Fast Food Operations" Barrie and Jenkins Ltd. London.
2. Davis B. and Stone S. 1985 "Food and Beverage Management" William Heinemann Ltd. London.
3. Department of Health and Social Security Scottish Home and Health Department Northern Ireland, 1974 "Clean Catering" Her Majesty's Stationery Office, London.

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Course Code	Title	Periods /week	Marks	Credits
PSDDAN206	CLINICAL NUTRITION	3	100	3

S. No.	Course Content	Periods
Unit I	Liver and Gall bladder diseases, Hepatitis, Cirrhosis, Hepatic coma, Wilson's disease, Cholelithiasis, Cholecystitis Kidney disease: Acute and chronic glomerunephritis, Nephritic syndrome, Renal failure, Nephrolithiasis	15
Unit II	Diseases of the nervous system, Cerebrovascular diseases, Epilepsy, Endocrine diseases, Thyroid diseases, Parathyroid disease, Adrenal disease, Anemias, protein energy malnutrition	15
Unit III	Infections like T.B., measles, chicken pox, malaria, Allergy, Febrile conditions, Cancer, Arthritis and musculoskeletal disorders, Inborn errors of metabolism Nutritional management of low birthweight infants Dietary management in surgical conditions, trauma and burns Drug and nutrient interaction.	15

References

1. Anderson, Liennea, Dibble, Marjorie, Turkki, P.R.; Mitchell, Helen &Rynbergen, Henderika (1982) "Nutrition in Health and Disease" 17th Edition J.B. Lippincott Co. Philadelphia.
2. Antia, F.P. (1989) "Clinical Dietetics and nutrition" 3rd Edition Oxford University Press, Bombay.
3. Bennion Marion (1979) "Clinical Nutrition" Harper and Row Publishers Inc., New York.

Course Code	Title	Periods /week	Marks	Credits
PSDDANP201	DIET THERAPY	8	100	2

S. No.	Course Content	Periods
Unit I	**Kidney diseases:** Acute & Chronic Glomerulonephritis, Nephrotic syndrome	15
Unit II	**Kidney diseases:** Renal failure, Nephrolithiasis, Dialysis, Renal Transplant	15
Unit III	**Liver diseases and gall bladder**	15
Unit IV	**Allergy**	15
Unit V	**Diets of stressed patients :**Burns, Cancer, Surgery	15
Unit VI	**Nutritional management of low birth weight infants:** Pediatric diets, Infant diets & supplementary foods	15

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Course Code	Title	Periods /week	Marks	Credits
PSDDANP202	CLINICAL TESTING AND FOOD ANALYSIS BASED ON DATA	3	50	2

S. No.	Course Content	Periods
Unit I	Qualitative analysis of sugars, Estimation of sugars in food samples (milk, sugarcane, biscuits, etc.), Qualitative analysis of amino acids	15
Unit II	Determination of moisture and ash content in food samples, Estimation of minerals in food samples – iron, phosphorus, calcium, Estimation of ascorbic acid in foods (sprouted pulses, cauliflower, beverages, etc.)	15
Unit III	Estimation of tannin content in food samples., Estimation of crude fibre, Detection of food adulterants, Estimation of protein and fat content in food samples. Na and K content of certain foods using flame photometry	15

Course Code	Title	Periods /week	Marks	Credits
PSDDANP203	APPLIED NUTRITION AND PUBLIC HEALTH	2	50	2

S. No.	Course Content	Periods
Unit I	Developing and demonstration of low cost nutritious recipes for children, (0-1, 1-3, 3-6 years) pregnant and nursing mothers. Modifying the recipes according to rural/urban set up. Developing a dietary survey form and collecting and analyzing information	15
Unit II	Planning, organising and imparting nutrition education sessions for a given community	15

References

1. Swaminathan M.S., 1985 Essential of Foods & Nutrition, the Bangalore Printing & Publishing Company Ltd. Gopaldas and Sheshadri S. (Eds) (1987) Nutrition: Monitoring and Assessment. Oxford University Press.
2. Jellief D.B. (1966)., The assessment of Nutritional status of the community, WHO, Geneva.
3. Shukla P.K. (1982). Nutritional Problems in India, Prentice – Hall of India, Private Limited, New Delhi. Bagchi K. 1977. Nutrition Education through health care system. WHO offset document,: WHO Geneva.

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S. No.	Course Content	Periods
Unit I	Preparation and use of visual aids for nutrition education – Posters, Flash Cards, Flip books, Puppets etc.	**15**
Unit II	Acquiring skills for using methods of communicating Nutrition messages – Role plays, Demonstrations, Puppet shows, Group Discussions, games etc.	**15**

References

1. Swaminathan M.S., 1985 Essential of Foods & Nutrition, the Bangalore Printing & Publishing Company Ltd. Gopaldas t. Sheshadri S. (eds) (1987) Nutrition: Monitoring and Assessment. Oxford University Press.
2. Jellief D.B. (1966)., The assessment of Nutritional status of the community, WHO, Geneva.
3. Shukla P.K. (1982). Nutritional Problems in India. Prentice – Hall of India, Private Limited, New Delhi

Postgraduate Diploma in Dietetics and Applied Nutrition

Sr. No	Roll No	Name of the Student	Grade	Certificate No
1	303	ANSARI SHAHLA PARVEZ SHABANA	A	PGDDAN-201920-02
2	304	AVHAD RASIKA SUNIL MEENA	A	PGDDAN-201920-03
3	305	BAIG UMAIMA ATIQUE SHAZIA	A	PGDDAN-201920-04
4	306	BANSODE SANJANA SHANKAR VARSHA	A+	PGDDAN-201920-05
5	307	BHATI QANITA MAHMOOD KAUSAR	A+	PGDDAN-201920-06
6	308	GOGDA SADAF HAROON SHAHNAAZ	A+	PGDDAN-201920-07
7	309	HAMIDANI FARHEEN MOHD. IQBAL HAMIDANI FOUZIYA	A+	PGDDAN-201920-08
8	310	KALARIA PEARL MUKESH REKHA	O	PGDDAN-201920-09
9	311	KHAN ALISHA AJAZ AYESHA	A	PGDDAN-201920-10
10	312	KHAN HAFSA ZAFRULLAH RAKSHANDA	A+	PGDDAN-201920-11
11	313	KHAN SEHAR SHER KHAN NASEEM FATIMA	A+	PGDDAN-201920-12
12	315	PINKY KUPPUSWAMY MUTHULAXMI	A+	PGDDAN-201920-13
13	317	MIR SHAMAIL MOHD SALIM SADEQA SALIM	A+	PGDDAN-201920-14
14	318	MITHAWALA AISHA SHAIZAD MEHJABEEN	O	PGDDAN-201920-15
15	320	PARMAR KHUSHBU FUTARMAL KUSUM	A+	PGDDAN-201920-16
16	321	PATIL ANUSHRI ANAND SUNANDA	A	PGDDAN-201920-17
17	323	RAIKAR JUILI SATISH SWATI	A+	PGDDAN-201920-18
18	324	SARDAR AYESHA SHARJEEL RAZIYA	A	PGDDAN-201920-19
19	326	SAYED AARIFA MAZHAR YASMIN	A+	PGDDAN-201920-20
20	327	SHAH NIDHI YATIN RAKSHA	A	PGDDAN-201920-21
21	328	SHAIKH AISHA ZUBER SULTANA	O	PGDDAN-201920-22
22	329	SHAIKH SANOBER FAIZAHMED JABEEN	A+	PGDDAN-201920-23
23	330	SHAIKH WAJIDA QAMAR TAJUDDIN ASIYA	A+	PGDDAN-201920-24
24	332	SHAIKH ARSHEEN RASHID AFROZ	A+	PGDDAN-201920-25
25	333	SHAIKH SHIFA SIDDIQUE NASRIN	A+	PGDDAN-201920-26
26	334	SHAMSI SAFURA JABEEN NASIM IQBAL SADAF AMBAREEN	A+	PGDDAN-201920-27
27	336	SIDDIQUI ANAM SHAMIM ISHRAT	A+	PGDDAN-201920-28
28	338	YADAVA SARANYA ESSAKKIAPPAN VEMBU	A+	PGDDAN-201920-29
29	339	SHAIKH ANAM FEROZ	A+	PGDDAN-201920-30
30	340	SUHANI RUKAIYA	A+	PGDDAN-201920-31
31	341	NAEEMI AFRIN BANU ABDUL AZIZ	A	PGDDAN-201920-32
32	342	QURESHI RIFAT FATIMA M. ANWAR	A	PGDDAN-201920-33

33	331	SHAIKH SANA ALI AHMED NAAZ BEGUM	A	PGDDAN-201920-34
34	302	SHAIKH FAREEHA FIROZ ZAIBA	A	PGDDAN-201920-35
35	325	SAWANT SURAJ DILIP DIPALI	B+	PGDDAN-201920-36
36	335	SHINDE SHWETA SUNIL VIDYA	A	PGDDAN-201920-37
37	316	LAKHANI ASMA SALIM SHAMIM	A	PGDDAN-201920-38
38	301	SAVLA KINJAL SATISH SUDHA	O	PGDDAN-201920-39

Hindi Vidya Prachar Samiti's

RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce (Autonomous)

Affiliated to UNIVERSITY OF MUMBAI

CERTIFICATE OF MERIT

This is to certify that

KINJAL SATISH SUDHA

has secured

"O"

in Postgraduate Diploma in Dietetics & Applied Nutrition

in the examination held in November 2020.

Controller of Examination

Principal

Certificate ID: PGDDAN-201920-01