

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION, MUMBAI .**

1	Name of Course	<b>Diploma Course in Dietician &amp; Nutrition Science (W. E. F. 2015-16)</b>									
2	Course Code	<b>201418</b>									
3	Max.No.of Students Per Batch	25 students									
4	Duration	2 years									
5	Type	Full time									
6	No.Of Days / Week	6 Days									
7	No.Of Hours /Days	7 hrs									
8	Space Required	1) Theory Class Room – 200 sqft    2) Practical Lab – 400 sqft 3) Space required for Practical of English, Elective – 1 & Elective - 2 Subject = 1200 Sq.Ft. (400 Sq.ft. x 3) = <b>Total 1800 Sq.Ft.</b>									
9	Minimum Entry Qualification	S.S.C pass									
10	Objective Of Course	To create a skilled Nutrition & Dietitian Professional Expert.									
11	Employment opportunity	<ul style="list-style-type: none"> <li>• To develop &amp; run Nutrition &amp; Dieticians Centres all over India &amp; Abroad.</li> <li>• Job in Naturopathy centres, Nutrition &amp; Dietetic department &amp; Hospitals.</li> </ul>									
12	Teachers qualification	Bachelor in Naturopathy and Yogic sciences (BNYS), Nutrition & Dieticians Dept. (MBBS Or BAMS Or BHMS Or Naturopathist Or physiotherapist Or psychologist Graduates & Post Graduates, etc, can teach their concerned subjects									
13	<b>Teaching Scheme -</b>										
	Sr.	Subject	Subject Code	Clock Hours/Week							
				Theory	practical	Total					
	1	English (Communication skill)	90000001	2 hrs	1 hrs	3 hrs					
	2	Elective-I	--	2 hrs	1 hrs	3 hrs					
	3	Elective-II	--	2 hrs	1 hrs	3 hrs					
	4	Anatomy, Physiology and Pathology	<b>20140004</b>	3 hrs	8 hrs	11 hrs					
	5	Nutrition and Dietetics	<b>20140039</b>	3 hrs	8 hrs	11 hrs					
	6	Dietician therapeutics	<b>20140040</b>	3 hrs	8 hrs	11 hrs					
		Total				42 hrs					
14	Internship	Two Month Summer Internship from 1st May to 30th June is Compulsory.									
15	Examination Scheme- Final Examination will be based on syllabus of both years.										
	Subject	Subject Code	theory			Practical			Total		
			Duration	Max	Min	Duration	Max	Min	Max	Min	
	1	English (Communication Skill)	90000001	3 Hrs	70	25	3 Hrs	30	15	100	40
	2	Elective-I	--	3 Hrs	70	25	3 Hrs	30	15	100	40
	3	Elective-II	--	3 Hrs	70	25	3 Hrs	30	15	100	40
	4	Anatomy, Physiology and Pathology	<b>20140004</b>	3 Hrs	100	35	3 Hrs	100	50	200	85
	5	Nutrition and Dietetics	<b>20140039</b>	3 Hrs	100	35	3 Hrs	100	50	200	85
	6	Dietician therapeutics	<b>20140040</b>	3 Hrs	100	35	3 Hrs	100	50	200	85
		Total								900	375
16	<b>Teachers</b> – Three Teachers per batch for vocational component. For English, Elective-I & II guest faculty on clock hour basis.										
17	<b>Student have to choose any one subject for Elective-I and Elective-II from below given subjects</b>										
18	<b>a) For Elective I – Student can choose any one subject</b>					<b>b) For Elective II – Student can choose any one subject</b>					
	<b>Code</b>		<b>Subject Name</b>			<b>Code</b>		<b>Subject Name</b>			
	90000011		Applied Mathematics			90000021		Applied Sciences (Physics & Chemistry)			
	90000012		Business Economics			90000022		Computer Application			
	90000013		Physical Biology (Botany & Zoology)			90000023		Business Mathematics			
	90000014		Entrepreneurship								
	90000015		Psychology								

**Theory - I - Anatomy, Physiology and Pathology – 1<sup>st</sup> year**  
**(Subject Code – 20140004)**

THEORY	PRATICAL
<p>A. ANATOMY-PHYSIOLOGY &amp; PATHOLOGY OF HUMAN BODY SYSTEMS: -</p> <ol style="list-style-type: none"> <li>1. Introduction to the body as a whole</li> <li>2. The cells, tissues &amp; organisation of the body.</li> <li>3. The Blood : Composition, Immunity types, Inflammation, Defence mechanisms</li> <li>4. The Circulatory system</li> <li>5. The Lymphatic system</li> <li>6. The nervous system</li> <li>7. The Endocrine system</li> <li>8. The Respiratory System</li> <li>9. Introduction to Bio-molecules</li> <li>10. The digestive system</li> <li>11. The excretory system</li> <li>12. Musculoskeletal system</li> <li>13. Reproductive system</li> <li>14. The Special senses</li> </ol> <p>B. Preventive &amp; Social Medicine</p> <ol style="list-style-type: none"> <li>1. Definition of Hygiene, personal hygiene &amp; social Hygiene</li> <li>2. Definition of health &amp; disease</li> <li>3. International organisations:-WHO, UNICEFF, Health for All</li> <li>4. Health programmes in India: National Anti-malaria, Programme, National Filaria Control Programme, National Leprosy Eradication Programme, Revised National tuberculosis control Programme, National AIDS control programme.</li> <li>5. Primary Health centre</li> <li>6. Communicable &amp; Non communicable diseases.</li> <li>7. Food, water, air &amp; Noise pollution, its control &amp; prevention</li> </ol>	<p>ANATOMY-PHYSIOLOGY-PATHOLOGY</p> <ol style="list-style-type: none"> <li>1. Human Skeleton – <ul style="list-style-type: none"> <li>• Identification of Bones</li> <li>• Identification of Points</li> <li>• Surfaces</li> <li>• Skull, Scapula, Clavicle, Humerus, Radius, Ulna, Femur, Tibia, Fibula, Carpal &amp; Tarsal bones, Ribs, Vertebrae, Sternum, etc.</li> </ul> </li> <li>2. Human organs - Brain, Stomach, Lungs, Heart, Kidney, Liver, Uterus, Spleen, Urinary bladder, etc.</li> <li>3. Introduction of slides :- <ul style="list-style-type: none"> <li>Tissue –Epithelial Tissue</li> <li>connective Tissue</li> <li>Muscular Tissue</li> <li>Nervous Tissue</li> <li>Liver</li> <li>Kidney</li> <li>Spleen</li> <li>Pancreas</li> <li>Lymph nodes</li> <li>Skin</li> <li>Testis</li> <li>Ovary</li> <li>Uterus</li> <li>Tonsil</li> <li>Stomach T.S.</li> <li>Small Intestine T.S.</li> <li>Large Intestine T.S.</li> <li>Blood cells – RBC, WBC, Platelets</li> </ul> </li> <li>4. Blood Pressure estimation</li> <li>5. Checking of : Body temp RR, Weight, height, chest girth, waist girth, abdominal girth, Hips girth, thigh girth &amp; arm girth listening cardiac sounds with stethoscope</li> </ol>

## Anatomy, Physiology and Pathology – 2<sup>nd</sup> year

THEORY	PRATICAL
<p><b>A. BIOCHEMISTRY &amp; MICROBIOLOGY</b> (Laboratory investigation report reading.)</p> <ol style="list-style-type: none"> <li>1. Normal &amp; abnormal composition of – <ul style="list-style-type: none"> <li>• Urine Routine Microscopy</li> <li>• Stool Routine Microscopy</li> </ul> </li> <li>2. Haematology &amp; serology – <ul style="list-style-type: none"> <li>• CBC (Complete Blood Count) , Hb %</li> <li>• ESR (Erythrocyte Sedimentation Rate)</li> <li>• Lipid Profile</li> <li>• RFT (Renal Function Test)</li> <li>• LFT (Liver Function Test)</li> <li>• Serum electrolytes → Na, K*, etc.</li> <li>• Serum calcium, serum phosphorus</li> <li>• Blood Glucose – Fasting , Post lunch</li> <li>• RA – Factor</li> <li>• Thyroid Test – T<sub>3</sub>, T<sub>4</sub>, TSH</li> <li>• CPK – CPKMB</li> <li>• LDH</li> <li>• ASO – Titre</li> <li>• Coagulation profile = PT, PC, BT, CT</li> <li>• WIDAL TEST</li> <li>• Sexually Transmitted Disease screening Test=HIV, VDRL, HbsAg</li> <li>• Identification of blood groups &amp; cross matching</li> <li>• Alkaline phosphates, CA-125, CEA</li> <li>• Serum vitamins – Vit – B<sub>12</sub>, Vit-D, etc.</li> <li>• Glycosulated Haemoglobin</li> <li>• Serum prostate specific Antigen (PSA)</li> </ul> </li> <li>3. Test for Tuberculosis (TB):- Sputum test, Montoux Test</li> <li>4. Histopathology &amp; Cytology :- FNAC, Paps Smear, Endometrial Biopsy , Other Biopsy reports</li> <li>5. Cardiac investigation :- <ul style="list-style-type: none"> <li>• Echocardiography (ECG)</li> <li>• 2-D-Eco-colour Doppler</li> <li>• Stress Test</li> <li>• CT – Angiography</li> <li>• Coronary Angiography</li> <li>• Angioplasty</li> <li>• Bypass surgery</li> </ul> </li> <li>6. Radiological investigations :- <ul style="list-style-type: none"> <li>• Plane X – Ray reading (Normal &amp; Abnormal) – Chest, Joints, Skull, Spine, Para nasal sinuses, etc.</li> <li>• Contrast – X – Ray reading :- Barium meal, Barium enema, NP, HFG,</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>• Reading of various pathological test reports of the patients &amp; their Normal &amp; Abnormal values</li> <li>• Radiological –Ray report reading .</li> <li>• Case study -History taking of patients .</li> <li>• Iris Diagnosis charts reading &amp; Disease management .</li> <li>• Facial diagnosis &amp; disease management .</li> <li>• Practical demonstration of various First Aid Treatments .</li> <li>• Examination of the body as a whole:- <ul style="list-style-type: none"> <li>• Examination of cardiovascular system.</li> <li>• Examination of Nervous system .</li> <li>• Examination of Special senses</li> <li>• Examination of respiratory system .</li> <li>• Examination of Digestive system .</li> <li>• Examination of Locomotor system .</li> <li>• Per abdominal examination in supine position.</li> </ul> </li> <li>• Examination of various diseased patients in the hospital &amp; their treatment &amp; care .</li> <li>• Visit to pathological lab.</li> <li>• Practical record book.</li> </ul>

<p>Cholecystography, Angiogram, Bronchogram ,etc</p> <ul style="list-style-type: none"> <li>• Ultrasound sonography of :- Abdomen –Pelvis, Obstetric, Scrotal, Thyroid, Musculoskeletal, Joints, etc.</li> <li>• Endoscopy</li> <li>• C.T. Scan</li> <li>• MRI</li> </ul> <p>7. Breast Examination :- Mammography &amp; Sonomammography</p> <p>8. Peripheral blood smear for malarial parasite (PBS)</p> <p>9. Urine culture Test :- Culture growing &amp; culture sensitivity, culture media, culture methods &amp; identification of bacteria.</p> <p>10. Bacteriology introduction</p> <p>11. Virology introduction</p> <p>12. Mycology introduction</p> <p>13. Parasitology</p> <p>14. Human blood groups</p> <p><b>B. DIAGNOSTIC METHODS :-</b></p> <p>1. Case study taking of patient</p> <ul style="list-style-type: none"> <li>• Approach to patient</li> <li>• History taking &amp; case sheet writing</li> </ul> <p>2. Diagnostic methods in Naturopathy :-</p> <p>a. Iris Diagnosis :-</p> <ul style="list-style-type: none"> <li>• History &amp; definition of Iridology</li> <li>• Anatomy of Iris, Blood supply &amp; Nerve supply of Iris.</li> <li>• Technique of Iris reading, Identification of Normal &amp; Abnormal colours of Iris.</li> <li>• Iris chart of Right &amp; Left Iris, Zone areas, sectoral divisions</li> <li>• Interpretation of Iris manifestations:- Toxic settlements, Nerve rings, Lymphatic rosary, Psora spots, Radii- Solaris, Sodium ring, Drugs &amp; chemicals appears in Iris.</li> <li>• The iris reveals the cause of disease.</li> </ul> <p>b. Facial Diagnosis :-</p> <ul style="list-style-type: none"> <li>• Introduction, definition &amp; scope for science of facial diagnosis.</li> <li>• Characters of healthy body- a ) Normal functions, b) Normal figure</li> <li>• Foreign matter theory:- i) Definition of Foreign matter. ii) Process of accumulation of foreign matter in the body. iii) Changes caused in the body due to accumulation of foreign matter.</li> <li>• Encumbrance &amp; their types front encumbrance, Right side encumbrance, Left side encumbrance, Mixed encumbrance &amp; Possible diseases in concerned encumbrance.</li> </ul> <p><b>C. FIRST AID:-</b></p> <ul style="list-style-type: none"> <li>• Aims &amp; Principles of first aid.</li> <li>• What first aider should do during emergency.</li> </ul>	
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<ul style="list-style-type: none"><li>• Resuscitation techniques.</li><li>• First aid for:-     Wounds, Haemorrhage, shock, dressings &amp; bandages, fractures, dislocation, sprains.</li><li>• First aid for Medical emergencies:-</li><li>• Drowning, Heart attacks, unconscious patient, diabetic emergencies, snake bite, scorpion bite, dog bite, nose bleed, frost bite, heat stroke, head injury, chest injury, burns &amp; scalds, electrical injuries, glaucoma attack, convulsion in children, fainting, Epileptic fits, sun burn, honeybee bite,etc.</li></ul> <p><b>D. PHARMACOLOGY:-</b></p> <ul style="list-style-type: none"><li>• Introduction of Indian Pharmacopia, British Pharmacopia &amp; American Pharmacopia.</li><li>• Adverse drug effect.</li><li>• Identification with drugs used in routine practice.</li></ul> <p>Eg.Painkillers,Antipyretic,Antiallergy,Hypoglycemic,Antihypertensive, Antirheumatoid drugs,Emergency drugs,etc.</p>	
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## THEORY - II - NUTRITION & DIETETICS - 1<sup>st</sup> Year

(Subject Code – 20140039)

(100 Marks)

Introduction to Nutrition:-

- What is Nutrition?
- History of Nutrition.
- The food guide pyramid.
- What are nutrients & their functions.
- What is malnutrition, under nutrition & over nutrition.
- Guidelines for good health -Role of food in health.
- To know nutritional composition of food
  - food as a source of nutrients.
- Food intake & its Regulations:-
  - Hunger, appetite & satiety
  - Regulation of hunger
- Recommended dietary intakes (RDI)

I. Food Chemistry:-

- a) Nutritive value of food ingredients commonly used in India.
  - b) Composition of body
  - c) Energy
  - d) Carbohydrates:- Introduction, classification, digestion, absorption, functions & sources.
  - e) Proteins:- Introduction, classification, digestion, absorption, functions & sources.
  - f) Fats & oils:- Introduction, classification, digestion, absorption, functions & sources.
  - g) Vitamins:- Fat soluble & water soluble vitamins, various sources of vitamins & deficiency diseases.
  - h) Mineral elements:- major minerals & minor minerals
  - i) Water & electrolytes:- functions, sources & deficiency.
  - j) Alcohol
  - k) Fibre:- functions, deficiency & sources.
  - l) Enzymes
  - m) Cellulose
- Energy balance & the regulation of the body weight.
- Energy requirement of the body.
- Food properties:-
- i. Physical properties.
  - ii. Acids, bases & buffers
  - iii. The chemical bond.
  - iv. Colloids.

## II. Foods, Food Composition & their Nutritive value.

- 1) Beverages:- coffee, Tea, Cocoa, soft drinks, fruit Beverages, Alcoholic Beverages, etc.
- 2) Fruits:- Classification, Composition, Fruit ripening & storage:- Berries, citrus fruits, drupes, grapes, melons, pomes, tropical & subtropical fruits, dry fruits, jams & jellies.
- 3) Vegetables:- Classification, composition, Nutritive values:- Cole crops, Root vegetables, Fruit vegetables, cucurbits, leafy vegetables, tuber vegetables, Bulbs, other vegetables.
- 4) Cereals:- Production, structure, composition & storage:- Wheat, Rice, Maize, Sorghum, Millets, Barley, Oats & Rye
- 5) Pulses:- Composition, processing, utilization, toxic constituents of pulses, some important pulses.
- 6) Nuts:- Nuts as a food, cashew, coconut, ground nut, almonds, chestnuts, pistachio, walnut, etc.
- 7) Oils & Fats in foods:-
  - Nutrition importance of oils & fats.
  - Functions of oils & fats.
  - Processing of oils & fats
  - Animal fat
  - Vegetable oils
  - Sources of Edible oils.
- 8) Spices:- Composition & Nutritive value  
Major spices of India  
Minor spices of India
- 9) Milk & milk products: - Composition, properties & Nutritional importance of milk.
- 10) Eggs
- 11) Meat
- 12) Poultry
- 13) Seafood.
- 14) Sugar & jiggery
- 15) Honey

## THEORY - II - NUTRITION & DIETETICS - 2<sup>nd</sup> Year

(100 Marks)

- Food preparation, preservation & processing:-
  - 1) Cooking of foods:-
    - Methods of cooking
    - Cooking media
    - Microwave cooking
    - Solar cooking
    - Changes in cooking
  - 2) Food & Toxins:-
- Non nutritional constituents & food safety:-
  - Naturally occurring Toxicants & infective agents in food
  - Microbial toxins
  - Bacterial food poisoning
  - Contaminants rising from processing
  - Adulteration of food
  - Food additives
  - Adverse effects of artificial food colouring
  - Adverse effects of artificial manures & pesticides to the foods
  - Methods of food preservations & processing
  - Salt eating & food toxicity
- 3) Nutrition & Immunity :-Food which increase immunity.
- 4) Nutritional deficiency diseases, preventive and curative approach
- 5) Study about adverse effect of alcohol
- 6) Community nutrition:-
  - National health programmes in India –ICDS, Mid-day meal programme, Anaemia Control programme, Vit-A prophylaxis programme.
  - International agencies- FAO, UNICEFF, WHO,
- Nutrition education-

Methods:- lecture, Demonstration, street play, exhibition, group discussion & home visit.
- Assessment of nutritional status:-
  - Objectives
  - Types of methods
    - 1) Anthropometric measurements:  
Age, Weight, Height, Arm, Head & Chest, Circumference, Skin-fold thickness.
    - 2) Clinical assessment of Nutritional status:(NAC-ICMR std Chart/schedule)
    - 3) Radiological measures.
    - 4) Biophysical measurements
    - 5) Biochemical methods
    - 6) Vital statistics
- Introduction with Dietetics:-
- Dietetics principles
- Concept of wholesome diet.
- Medicinal values of foods
- Medicinal Herbs, medicinal plants, etc



- Bach Flower Remedy:-healing with flowers.
- Natural foods & Health:-
  - Importance of green leafy vegetables, other vegetables, fruits and raw ingredients in curing various diseases.
  - Chemical composition of different Raw juices & their therapeutic effects:- wheat grass juice, Beet Root Juice, Cabbage Juice, cucumber juice, lettuce juice, garlic juice, onion juice, lemon juice, orange juice, papaya juice, bottle guard juice, pineapple juice, mango juice, pumpkin juice, tomato juice, turnip juice, pomegranate juice, Turmeric juice, Ginger Juice, etc.
  - Sprouts their nutritive values & Methods of sprouting
  - Foods values in raw state, germinated form & cooked form.
  - Comparison with raw food & cooked food.
- Food combination & Health
- Herbs & health
- Classification of diet according to naturopathy
- Concept of health in naturopathy
- Hospitals dietetics
- Seasonal changes in the dietary pattern in Naturopathy
- Naturopathic approach towards vegetarian and non vegetarian food
- Food hygiene & health
- Methods of cooking & nutrient losses
  
- Dietary fibre its sources and its therapeutic effect
- Geriatric nutrition & diet
- Importance of “Breast feeding”& Artificial feeding. Composition of Human milk, Cow’s milk, Buffalo’s Milk.

## **PRACTICAL - II - NUTRITION & DIETETICS - 1<sup>st</sup> Year**

- Visit to the Nutrition & Dietetics ward in Hospitals (Naturopathy & Allopathy)
- Introduction with various types of foods
- Food rich in carbohydrates, proteins, fats, vitamins & minerals.
- Canteen duties at Naturopathy & Allopathy Hospitals.
- Identification of foods of various groups, their composition & Nutritive values.
- High calorie diet.
- Low calorie diet.
- Negative food diet.
- Diet As per Age & Working Life Style
- Practical Record book.

## PRACTICAL - II - NUTRITION & DIETETICS - 2<sup>nd</sup> Year

- Practical demonstration of various cooking methods.
- Practical demonstration Nutrition Education
- Wholesome diet
- Visit to Naturopathy & Allopathy hospitals to see preparation of various types of Diets in hospitals.
- How to maintain food hygiene.
- High fibre diet.
- Calculation of Nutritive value of food.
- Demonstration of sprouts preparation.
- Raw diet preparation
- Boiled diet preparation
- Planning of all combinations of diets.
- Preparation of different soups.
- Salt free diet, fat free diet, oil free diets.
- Practical Record Book.

## THEORY - III - DIETICIAN THERAPEUTICS - 1 st Year

(Subject Code – 20140040)

### A. Therapeutic diets & Effective Nutritional counseling.

- Principles of the Diet plan.
- Role of Dietitian.
- Drug & Diet interaction.
- Effects of drugs and food & Nutrients.
- Diet therapy and types of Therapeutic Diets.
- Modifications in diet consistency :-
  - a. Soft diet – Composition, menu plan for veg/non veg sample menu.
  - b. Clear fluid diet – Composition.
  - c. Full fluid diet – Composition.
- Hospital diets & Progressive modifications.
- Additional modifications in texture & consistency of diet.
- Modification of Normal diet during illness & convalescence.

### B. Special feeding methods.

- Intravenous feeding – composition.
  - a. Techniques i) Peripheral venous infusion . ii) Infusion through a polythene tube into the deep veins.
  - b. Nutrients used in intravenous feeding :-
    - i) Water & Electrolytes. ii ) Carbohydrates & alcohol .iii) Amino Acids. iv) Whole blood or plasma. V ) Emulsified fats & vitamins.

### C. Parenteral Nutrition.

- Solution for parenteral Nutrition – Composition.
- Tube – feeding (Nasogastric – feeding) – Advantages.
- Diet for tube feeding – calorie, protein, fat, carbohydrate, fluid, electrolytes, vitamins.
- Composition tube feeding.
  - a. High carbohydrates ( No protein) feed.
  - b. High carbohydrates moderate fat & Protein feed.
  - c. High calorie – High protein feed.

- Gastrostomy.
- Jejunostomy.
- High protein diet-Composition proteins, calorie, vitamins & Minerals.
- Low protein diet - composition, food stuffs – veg/nonveg.
- High calorie diet- Composition proteins, calorie, vitamins and minerals.
- Low calorie Diet - Composition proteins, calorie, vitamins and minerals.
- Low residue (Fiber) – Composition.
- High residue (Fiber) – Composition.é

**D. Nutritive values:-**

- Nutritive values of common foods.
  - Food values on household measures.
- a) Nutritional requirements of different age groups:- (RDA-Definition, ICMR recommendations)
- Age –
- 0-6 Months - Calories & Proteins.
  - 6-12 Months - Calories & Proteins.
  - 1-3 years - Calories & Proteins.
  - 3-6 years - Calories & Proteins.
  - 6-10 years - Calories & Proteins.
  - 10-12 years (Male) - Calories & Proteins.
  - 10-12 years (Female) - Calories & Proteins.
  - Adult male :- Sedentary – Moderate – Heavy life style.
  - Adult Female:- Sedentary, moderate, Heavy, pregnancy& Lactation.
- Nutrition for the aged.
- b) Balanced Diet chart :- The definition, and importance of Balanced diet.
- c) - Ways of measuring growth.
- Relationship of Nutrients and the Growth process.
  - Complications during pregnancy.
  - Complications commonly occurring in late adulthood.
- d) Nutrition for sports and fitness:-
- Fitness and its measurements.
  - Objectives of Nutritional managements.
  - Measurement of Body complications.
  - Methods of measuring energy expenditure.
  - Sources of Energy in the body.
  - Factors affecting fuel utilization.
  - Nutritional requirement of Athletes.
  - Nutritional allowance given by NIN.
  - Broad guidelines for sport persons.
  - Pre competition and post competition meal.
  - Diet & Nutrition for body building.
  - Measurements of Healthy body for Male & Female.

## THEORY - III - DIETICIAN THERAPEUTICS - 2<sup>nd</sup> Year

- Disease Management with Diet prescription:-
  - 1) Dietary requirement & protein energy malnutrition
  - 2) Anemia, its types & dietary management
  - 3) Vitamin deficiency diseases & dietary management
  - 4) Obesity- classification, complication, model diet charts for obesity patients-  
Diet chart-I No fat diet chart
  - 5) Diet during Energy Imbalance- High and Low Calorie Diets:--
    - Energy Balance
    - Definitions, Types and Causes of Obesity
    - Importance of Weight Regulation
    - Diet during Obesity
    - Fad Diets
    - Maintenance Diet
    - Diet for an underweight person
  - 6) Diet for Diabetes Mellitus :--
    - Causes of Diabetes
    - Classification of Diabetes
    - Symptoms of Diabetes
    - Tests for Diabetes
    - Acute Complications of Diabetes
    - Chronic Complications of Diabetes
    - Patient Education
    - Hypoglycaemic Drugs
    - Objectives of Diabetes Management
    - Glycaemic Index
    - Tips for Diabetes
    - The Diabetic Association of India
  - 7) Diet for Cardio-vascular Diseases :--
    - Cardio-vascular diseases
    - Risk Factors
    - Definition of Atherosclerosis
  
    - Blood Profile Related to Coronary Heart Disease
    - Drugs used in the Treatment of Cardio-Vascular Diseases
    - Dietary Management in Atherosclerosis and Hyperlipidaemia
    - Dietary Management of Acute Diseases of the Heart
  - 8) Diet for Kidney Diseases :--
    - Introduction
    - Kidney function tests
    - Glomerulonephritis
    - Nephrotic Syndrome
    - Chronic renal Failure- Uraemia

- Dialysis
  - Renal Transplantation
  - Urinary Calculi or Kidney Stone
- 9) Diet for Gastro-intestinal Diseases(Stomach and Intestines):--
- Classification of Diseases of the Gastro-Intestinal Tract
  - Indigestion or Dyspepsia
  - Peptic Ulcer
  - Diarrhoea
  - Constipation
  - Ulcerative Colitis
  - Diets Modified in Residue Content
- 10) Diet for Liver Diseases :--
- Life Depends upon the Liver
  - Causes of Liver Diseases and Disorders
  - Liver function tests
  - Clinical Symptoms
  - Nutritional considerations in Liver Diseases
  - Hepatitis
  - Cirrhosis of the Liver
  - Hepatic Coma
- 11) Diet for Infections and Fevers :--
- Defense Mechanisms in the Body
  - Role of Nutrition in Infections
  - Effects of Infection on Body Mechanisms
  - Effects of Infection in Nutrients
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- Definition of Fever
  - Dietary Modification in Infection and Fevers
- 12) Diet in other Health Conditions :--
- Trauma
  - Types of Feedings
  - Nutrition in Pre and Post-operative Care
  - Nutrition in Gout
  - Nutrition in Arthritis
  - Nutrition in Cancer
  - Nutrition and Skin Care
  - Food allergy, Intolerance and Sensitivity
  - Nutrition in Aids(Acquired Immune Deficiency Syndrome)
  - Burns
  - Diet in Inborn Errors of Metabolism.
- 13) “Diet is Medicine” explain in brief.
- 14) Diet plan & time management .

## **PRACTICAL - III - DIETICIAN THERAPEUTICS - 1<sup>st</sup> Year**

- Visit to the dietetic department of the hospital (Allopathy & Naturopathy).
- Menu planning using natural foods in general.
- Counselling to the patients about Naturopathic diet.
- Preparation of therapeutic diet & study about its composition.
- Study of diet during illness
- Study of Normal diet.
- Practical demonstration of special feeding methods techniques.
- Study of various diet charts for different age groups.
- Balanced diet- study.
- Preparation of balanced diet with low cost for poor people.
- Practical Record Book.

## **PRACTICAL - III - DIETICIAN THERAPEUTICS - 2<sup>nd</sup> Year**

- Planning of menu for each age group mentioned in theory.
- Menu planning using natural foods & raw foods for patients according to their disease.
- Dietary management for
  - PEM
  - Diarrhoea
  - Anaemia
  - Obesity, etc.
- What is weaning food, preparation of weaning foods.
- Observation of different patients & study their diseases. How they respond to dietary management.
- Preparation of diets of all ailments discussed in theory.
- Planning & preparation of Nutrient rich recipies.
- Practical Record Book.

**LIST OF TOOLS, EQUIPMENTS & FURNITURE REQUIRED  
TO BE AVAILABLE IN THE INSTITUTES**

• Human Skeleton
• Gas & Gas Stove
• Utensils.
• Knives, Dishes, Napkins, spoons etc.
• Clean water for cooking and water purifies.
• Storage place for vegetables, cereals, pulses etc.
• Refrigerator.
• Oven.
• Grinder/Mixer.
• Working tables and chairs.,Dual desk / Benches –As required
<b>List of Raw materials.</b>
• Cereal – products.
• Pulse – product.
• Oils and fat.
• Milk and milk products.
• Vegetables.
• Fruits.
• Condiments and spices.
• Mustard seeds, cumin seeds, Turmeric, Chilly powder, salt etc.
• Sugar and Jaggery.
• Nuts and Dry Fruits.

**REFERENCE BOOKS :-**

• Food and Nutrition – Vol – I & II By Dr. M.S. Swaminathan.
• Nutrition & Dietetics By Shubhangeni Joshi.
• Text book for Nutrition and Dietetics By Shubhangeni Joshi.
• Human Nutrition & Dietetics by Davidson & Passmore.
• Foods – Facts & Principle By Shakuntala Manay.
• Foods, Nutrition and Dietetics By M. Raheena Begum.
• Nutritive value of Indian foods By NIN- Hyderabad.
• Diet and Heart Disease By NIN- Hyderabad.
• Diet and Diabetes By NIN- Hyderabad.
• Fruits By NIN- Hyderabad.
• Potion Ani Ahar Shastra – Triveni Pharkade.
• Anashastra – Sumati Kukade.
• Sumati.R.Mudambi, M.V.Rajagopal, “Fundamentals of foods and nutrition” 3rd Edition, New age international (P)ltd., publishers, 1995.
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• Orient Longman, “Basic Food Preparation, A Complete Manual” 1993 New Delhi.
• Chaney and Ross, “ Nutrition”, 8th Edition, Surjeet Publications, Delhi – 110007.

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<ul style="list-style-type: none"> <li>• Dr. M.Swaminathan, “Hand book of Food and Nutrition”, Part-II, Ganesh &amp; Company, 41, Pandy bazaar, Madras-600017(India), 1978, (Printed by P.M.Kuruvilla at the Wesley press, Mysore.)</li> </ul>
<ul style="list-style-type: none"> <li>• Dr. K.E. Elizabeth, “Nutrition &amp; Child development:, Paras Medical PUBLISHER, (Solutions for Health care Professionals) Hyderabad-95, 1st Edition,1998.</li> </ul>
Diseases of Pachan Sawasthache - Vaidya Naminbhai Oza. - Navneet Prakashan
Nature Cure - By Dr. H. K. Bakhru - Publisher - Jaico Books Healing Power Natural Methods for Achieving whole body health - By Bridget Doherty Doug Hells - The editors - St.Marlinis Press United State of America.

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