

REVISED SYLLABUS

For

D.N.D

(DIPLOMA IN NUTRITION AND DIETETICS)



Lal Bahadur Shastri Paramedical Skill and Training Council India

लाल बहादुर शास्त्री पराचिकित्सीय कौशल एवं प्रशिक्षण परिषद भारत

मुख्य कार्यालय:- 4 वीं मंजिल, प्राइम प्लाजा, इन्दिरा नगर, लखनऊ।

प्रशासनिक कार्यालय:- द्वितीय तल, सुनील कॉम्प्लेक्स, वेस्टर्न कचहरी रोड़, मेरठ।

वेबसाइट:- www.lbspstc.com संपर्क सूत्र:- 121-4349311

Exam: March and April

(To be implemented from 2024-25 session)

Syllabus of Diploma in Nutrition and Dietetics

FIRST YEAR (1st)

S. No.	Subjects	Distribution of Marks			
		TH	PR	Viva-voce	Total
Paper I	Basic Nutrition	100	-	-	100
Paper II	Food Science	100	-	-	100
Paper III	Anatomy and Physiology I	100	-	-	100
Paper IV	Dietetics	100	-	-	100
PRAC	Seminar	-	100	100	200
PRAC	Hospital Industrial Training	-	25+25+25+25	-	100
	Total	400	200	100	700

Syllabus of Diploma in Nutrition and Dietetics

SECOND YEAR (2nd)

S. No.	Subjects	Distribution of Marks			
		TH	PR	Viva-voce	Total
Paper I	Community Nutrition	100	-	-	100
Paper II	Therapeutic Nutrition	100	-	-	100
Paper III	Anatomy and Physiology II	100	-	-	100
Paper IV	Food Hygiene and Microbiology	100	-	-	100
PRAC	Diet Counselling and Computer operations	-	300	100	400
	Total	400	300	100	800

FIRST YEAR (1ST Year)-D.N.D.

Paper-I Basic Nutrition

☑ UNIT 1

Introduction to nutrition – Scope of nutrition.

Carbohydrates- Classification, functions of carbohydrates, metabolism of carbohydrates.

Proteins and Amino acids- Classification, functions of proteins, daily protein requirement, factors affecting protein requirement, effect of protein excess and deficiency, Metabolism of proteins and amino acids.

Lipids- Classification, functions of fats and oil, metabolism of fats and lipids.

☑ UNIT 2

Nutritive component of food water.

Energy metabolism- Basal metabolic rate, resting metabolic rate, factors affecting BMR.

Phytochemicals

☑ UNIT 3

VITAMINS-

Fat soluble vitamins-A, D, E, K.

Water soluble vitamins- B complex, vitamin C

MINERALS-

Microminerals – Calcium, phosphorus,
magnesium
Microminerals- Iron, Iodine,
Zinc, Copper

☑ PRACTICAL

Preparation of modified recipes in terms of- Low protein, High protein, Low fat,
Low sodium, Calcium rich, Iron rich, Rich in vitamin A.

BOOKS:

Food nutrition: M. swaminathan Vol I and Vol II.

Textbook of Nutrition and dietetics : Khanna, Gupta, Passi and Mahna
Nutrition and Dietetics: Joshi SA 2011 (Tata Mc Graw Hill).

Paper II Food Science

☑ UNIT 1

Introduction to food science- classification of foods.

Cereal grains and products - structure of cereal grain, cereal cookery. Vegetables and fruits – composition and nutritive value.

Oils and fats in food

☑ UNIT 2

Pulses – Toxic constituents in pulses, processing. Milk – composition, processing.

Meat, Poultry, Fish

Egg- Nutritive value, evaluation of egg quality.

☑ UNIT 3

Food preservation – principles of food preservation, methods of food preservation. Methods of improving nutritional quality of foods- germination, fermentation, fortification, supplementation.

Food adulteration

☑ PRACTICAL

Preparation of food by different methods- Germination Fermentation Baking Frying

Books-

Food Science: Potter NN.

Food facts and Principals: Manary N.

Paper- III Anatomy and Physiology I

☑ UNIT 1

Introduction to living beings the cell Digestive system – structure, functions of salivary glands, stomach, pancreas, liver and the intestine. Mechanism of digestion and adsorption of carbohydrates, proteins and fats.

Role of enzymes in digestion of carbohydrates, proteins and fats.

☑ UNIT 2

Excretory system – Structure and function of kidney, mechanism of urine formation, disorders indicated by abnormal constituents of urine.

Musculoskeletal system – Types of bones, muscles.

Integumentary system – The skin and its functions, different layers of the skin, abnormalities of the skin.

☑ BOOKS-

Human physiology Vol I and Vol II- Chatterjee CC.concise medical physiology- Chaudhary SK. BD Chourasia- handbook of general anatomy 5th edition CBS publication

Paper- IV Dietetics

☑ UNIT 1

Introduction to dietetics

Fundamentals of meal planning

☑ UNIT 2

Nutrition in life cycle –

Adulthood

Pregnancy

Lactation

Infancy

Childhood

Adolescence

Old age

☑ PRACTICAL

Make a diet plan for –

Adulthood

Pregnancy

Lactation

Infancy

Childhood

Adolescence

Old age

☑ BOOKS-

Textbook of nutrition and dietetics by Khanna S. GUPTA, Passi and Mahna. Textbook of nutrition and dietetics by Joshi SA, 2011

PRAC- Seminar

Seminar will be based on topics taken from advances in the field of community nutrition, public health and allied areas

SECOND YEAR (2nd Year)- D.N.D.

Paper-I Community Nutrition

☑ UNIT 1

Concept of community nutrition Aim, scope and concept of public health nutrition Methods for assessment of nutritional status of community

☑ UNIT 2

Approaches for nutrition education in community – scope and its importance. Counselling skills National and health programs – National programmes, supplementary feeding programmes, National deficiency control programmes, Programmes for communicable diseases. Nutritional surveillance – Meaning, need, importance, objectives.

☑ PRACTICAL

Planning and preparation of low-cost nutritious recipes. Visit the primary health care center.

☑ BOOKS-

1. Jelliffy DB AND Jelliffy EFP. 1989- Community nutritional assessment. Oxford University press.
2. Wadhwa A and Sharma S. Nutrition in the community- A textbook, SSCN news UN ACC/ SCNsubcommittee on nutrition.

Paper II Therapeutic Nutrition

☑ UNIT 1

Therapeutic modification of normal diet

Gastrointestinal disorders – Gastritis, Hernia, Diarrhea, constipation, peptic ulcers, ulcerative colitis, crohns disease, dumping syndrome.

Metabolic disorders – Diabetes, gout, hypothyroidism, hyperthyroidism, polycystic ovarian disorders.

☑ UNIT 2

Cardiovascular disorders – Hypertension, Atherosclerosis, myocardial infarction. Liver disorders- Jaundice, hepatitis, diseases of gall bladder.

Febtile disorders – Typhoid, tuberculosis

☑ UNIT 3

Musculoskeletal disorders – Osteoarthritis, osteoporosis

Renal diseases – Glomerulonephritis, nephrotic syndrome, renal stones, acute and chronic renal failure.

Food allergies and food intoleranceWeight management

☑ Practical

1. Make a diet plan for a diabetic person
2. Make a diet plan for women with hyperthyroidism
3. Make a diet plan for a person with high cholesterol
4. Make a diet plan for a gout patient
5. Make a diet plan for hernia patient
6. Make a diet plan for a patient suffering from peptic ulcer.

☑ Books Recommended:

1. Bamji MS, Rao NP and Reddy V (2003) textbook of human nutrition. Oxford and IBH.
2. Swaminathan M (1974) Essentials of foods and Nutrition Vol. II Ganesh

Paper- III Anatomy and Physiology II

☑ UNIT 1

- Endocrine system – Definition, functions, kinds of hormones.
- Structure and functions of following glands – Thyroid, parathyroid, adrenal, pancreas, pituitary and pineal gland.
- Cardiovascular system – composition of blood, ABO blood group.
- Basic structure of heart.
- Cardiac cycle.
- Blood pressure and factors affecting it.
- Lymphatic system – Functions and life cycle of lymphocytes.

☑ UNIT 2

- Nervous system – structure and functions of nerve and receptor cells, transmission of nerve impulse, Autonomic nervous system – sympathetic and parasympathetic nervous system.
- Respiratory system – structure of respiratory system, mechanism of respiration and its regulation. Reproductive system – structure and function of male and female sex organs and glands, role of hormones in reproduction, placenta.

☑ Books-

1. Bamji MS, Rao NP and Reddy V (2003) textbook of human nutrition. Oxford and IBH.
2. Swaminathan M (1974) Essentials of foods and Nutrition Vol. II ganesh.

Paper- IV Food Hygiene and Microbiology

☑ UNIT 1

- Discovery and history of microbiology.
- Introduction to important microorganism in foods.
- Physical and chemical methods used in destruction of microorganisms.

☑ UNIT 2

- Use of high or low temperature, dehydration, irradiation and preservatives in food preservation.
- Contamination and spoilage of cereal and cereal products, vegetables and fruits, canned foods, meat and meat products, milk and milk products.

☑ Practical

- Study of compound microscope Study of autoclave and hot air oven
- Study of laminar flow and colony counter
- Preparation of nutrient broth and agar medium for growth of microorganism
- Study of pour plate, spread plate and streak plate method of isolation of microorganisms
Study of different hygiene maintaining techniques in a food establishment

☑ BOOKS-

1. Principles of Food Sanitation by Marriott, 5th ed., 2006, CBS Publisher, New Delhi.
2. Jay JM Modern Food Microbiology CBS publishers ND, 2005.
3. Pawar and Daginawala- 2010 Gen Microbiology (Vol II).
4. Food Microbiology by Frazier and westerner. 4th Edition Tata Mc Graw Hill.

PRAC- Diet Counselling and Computer operations

Practical

1. Operation of diet clinic and counseling.
2. Computer applications in nutrition related software, online software and diet calculation.
3. Case study report and presentation.
4. Visit to any institution such as Anganwadi/ hotel industry/ hospital/ department of any institution/ NGO/ and presentation report.
