

Rayat Shikshan Sanstha's
Yashavantrao Chavan Institute of Science, Satara

Syllabus for IInd Year Diploma Program

1. TITLE: **Diploma in Food Science and Nutrition**

2. YEAR OF IMPLEMENTATION: 2021

3. PREAMBLE:

- To impart knowledge about importance of nutrition in their life.
- To develop their understanding about the role of food in health.
- To make them apply this knowledge about food and nutrition for betterment of family as well as society.
- To learn to know about function, deficiency of nutrient as well as hygiene and sanitation of food.

4. GENERAL OBJECTIVES OF THE COURSE:

- To increase the nutrition knowledge and awareness.
- To promote desirable food behavior and nutritional practices.
- To know the methods and principles involved in nutritional cooking.
- To know about various adulterants and the methods of detecting them.
- To standardize different recipes based on portion size.
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5. DURATION: **One Year**

6. PATTERN: **Semester**

7. MEDIUM OF INSTRUCTION: **English**

8. STRUCTURE OF COURSE

Year	Paper No and Name	Contact hours	Credits	Marks
1	C ZT 101:	48	4	100
	C ZL102:	96	4	100
	C ZP103:	24	2	50
	Total	168	10	250
2	D ZT 201:	48	4	100
	D Z L202:	96	4	100
	D ZP 203:	24	2	50
	Total	168	10	250
Total		336	20	500

DZT 201- Nutritional Planning

DZL 202 – Practical

DZP 203- Project work

indicates subject

T indicates Theory

L indicates Lab work

P indicates Project work

A) LIBRARY :

Reference and Textbooks, Journals and Periodicals, Reference Books for Advanced Books for Advanced studies. –List Attached

B) SPECIFIC EQUIPMENTS :

Necessary to run the Course.

Computer, LCD, Projector, Visualizer, Smart board

c) Laboratory Equipments:

1. Weighing equipments

2. Microscopes

3. Sphygmomanometer

4. Hemoglobinometer

Rayat Shikshan Sanstha's
Yashavantrao Chavan Institute of Science, Satara
Syllabus Introduced from June, 2021

Title –Diploma in Food Science and Nutrition Total Hrs- 168

B.Sc .II (Zoology)

Theory: DZT- 201 –**Nutritional Planning**

Learning Objectives:

1.) Learn the role of nutrients in foods and deficiency diseases.
- 2) Understand the metabolism of nutrients in health and diseases.
- 3) Different systems of the body and their functions with special reference to the digestion, absorption, transport and uptake of nutrients and elimination of waste products.
- 4) Physiological changes at different stages of life.
- 5) Know the importance of therapeutic diet.
- 6) Knowledge about dietary control of different diseases

Semester I

DZT 201: Nutritional Planning

Unit 1 - Applied Nutrition

(12)

1. Nutrition at various stages of life (I): infant nutrition, Children. School stage. Adolescence, Nutrition at different physiological situations: pregnancy Nutrition at various stages of life
2. Breastfeeding. Menopause aging. Nutrition and physical activity.
3. Old age nutrition and physical activity.

Unit 2- Deficiency disorders

(12)

1. Classification of Vitamins: Fat soluble and water soluble.
2. Study of Vitamin deficiency with reference to Sources, role, deficiency diseases, storage, recommended dietary allowances (RDA), toxicity.
3. Vitamin A deficiency, Vitamin D deficiency, Vitamin E deficiency, Vitamin K deficiency, Calcium deficiency, Iron deficiency
4. Trace elements: Zinc, Copper, Chromium, Fluorine

Semester II

DZT-202- Meal Management

Unit 1 - Family Meal Management - (08)

Introduction to Meal Management - Meal planning for the family, Indian meal patterns - vegetarian & non-vegetarian, Food faddism & the faulty food habits, Nutritive value of common Indian recepies.

Unit 2- Diet in genetic disorders. (04)

1. Phenylketonurea
2. Galactosaemia
3. Fructosuria
4. Fructose-1, 6 bi-phosphate deficiency.

.Unit 3 - Nutritional Biochemistry– (12)

1. Role Carbohydrate in nutrition - Effects of too high - too low carbohydrates on health. Digestion & Absorption.
2. Role of Proteins in Nutrition .Effect of too high - too low proteins on health. Digestion & absorption.
3. Role of Lipids in nutrition -Digestion & Absorption. Role & nutritional significances of PUFA, MUFA, SFA, W-3 fatty acid.

Learning outcomes

- Student will learn about the breakdown and Synthesis of each nutrients in their body .
- Student will know how to keep the balanced diet to maintain the requirements of the body .
- Student will get the knowledge of Vitamins and roles played by each vitamin in the body .
- Student will know thesources of vitamins.
- Student will understand the importance of meal patterns in their daily routine and different stages of life
- Student will be able to plan the meal pattern with respect to nutritional requirement at specific age groups
- Student will understand the diet in genetic disorders.
- Student will be able to understand the genetic disorder

Semester I Practical

96 hrs

DZL- 202 -Practical

(Credit -02)

Healthy cooking practices

1. Heating
2. Cutting
3. Preservation
4. Storage
5. Cooking
6. Body Mass Index (BMI) Calculation and importance.
7. Food preparation and classifying recipes as good ,Moderate or poor .

Source of Specific Nutrients in food.

8. Portion Size and serving size.
9. Beverages .
10. Cereals – raw weight and cooking weight.

Basic Preparations and their nutritive value –

11. Vegetable And Fruits
12. Salads

Semester II Practical

DZL - 203

Basic Preparations and their nutritive value –

1. Milk and Milk products
2. Meat
3. Eggs
4. Soups

Meal planning of Different Age groups –

5. Planning and preparation of balanced diet for a Pregnant woman
6. Planning and preparation of balanced diet for a lactating woman
7. Planning and preparation of balanced diet for a pre school Child
8. Planning of balanced diet for a School going Child
9. Preparation of packed nutritive lunch box.
10. Planning and preparation of balanced diet for adolescence.
11. Planning and preparation of balanced diet for Senior Citizens .

12. Physical Fitness of Individual

13. Nutrition assessment.

Learning outcomes

1. Student will be able to Learn the nutritional requirements at different ages .
2. Student will be able to introduce variety of nutritive sources in their meals ,
3. Student will be able to analyse the dietary importance of fruits/ vegetables in daily routine.
4. Student will be able to analyse his own bleeding and clotting capacity .
5. Student will be able to know about different meal pattern as per region.
6. Student will be able to prepare and plan their own nutritional food recipes
7. .Student will know the the physiological needs at different stages of life.

DZP 203 - Project work related to Subject

(Credit -02)

24 hrs

Reference Books -

- **B. Srilakshmi: Dietetics, New Age International Publishers.**
- **B. Srilakshmi: Nutrition Science , New Age International Publishers**
- **B. Srilakshmi: Food Science , New Age International Publishers**
- **Dr.Jyotisingh ,Handbook of Nutrition & Dietetics ,Lotus press publishers
New delhi -02**
- **Dominic W.S.Wong, Mechanism and Theory in food chemistry , CBS Publishers Pvt Ltd.**
- **Gopalan, C. etal : Nutritive value of Indian Foods, Indian
Council of Medical Research**
- **Guyton. A.C. Hall, J.E. : Text Book of Medical Physiology – 9
Ed/ Prism Books (Pvt.) Ltd. Bangalore**
- **Norman N.Potter ,Joseph H.Hotchkiss ,:Food Science, Fifth edition ,CBS Publishers Pvt Ltd**
- **Swaminathan, M. : Essentials of Foods and Nutrition, Vols -1
and II. Ganesh and Co. Madras.**
- **SunetraRoday : Food Hygiene and sanitation with case studies ,Second edition ,McGraw Hill
Education (India) Pvt Ltd .**
- **Shubhangi A. Joshi, Nutrition& Dietetics, fourth edition, McGraw Hill Education (India) Pvt
Ltd .**