Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Biotechnology

Course Type: GE I

Course Title: Nutrition, Health and Hygiene

Course Code: 101BIO1401

Credits: 03 **Max. Marks: 75** **Lectures: 45 Hrs.**

Learning Objectives:

LO 1. To learn the importance of nutrition for healthy life.
LO 2. To study the nutrition and its relation to maintenance of healthy life.
LO 3. To study and understand key health indicators.
LO 4. To understand importance of hygiene and practice it in day-to-day life.
LO 5. To learn about the growth and development of human health.
LO 6. To list the effects and disorders based on health and nutrition.
LO 7. To analyze the stability and maintenance about health and hygiene.
LO 8. To make aware people about personal hygiene as well community hygiene

Course Outcomes:

After completion of course the student will be able to-

CO 1. learn concept about human nutrition
CO 2. learn the malnutrition and nutritional deficiency diseases.
CO 3. know health, determinants of health and health indicators.
CO 4. develop awareness about personal and community hygiene.
CO 5. acquire knowledge about health and hygiene in today's life.
CO 6. appraise the nutritional value and management.
CO 7. learn the concept about balanced diet and nutrition
CO 8. protect human health by providing hygiene and sanitation.

Unit No.	Title of Unit & Contents	Hrs.
I	**Unit I: Human Nutrition**	**15 Hrs.**
	1. Concept and definition of terms –nutrition, malnutrition, balanced diet, Minimal nutritional requirement and Recommended Dietary Allowance (RDA), Energy in Human nutrition 2. Unit of measuring energy calorific value of food, BMR and factors affecting BMR and its regulation, 3. Determination of energy in food, Specific Dynamic Action (SDA). 4. Growth and development of infancy to adulthood: Somatic, physical, brain and mental development, puberty 5. Factors affecting growth and development.	
	Unit Outcomes: UO 1. Learn the concept of Human Nutrition	

Unit No.	Title of Unit & Contents	Hrs.
	UO 2. Learn the concept about balanced diet and nutrition	
II	**Unit II : Nutrition deficiency and its effect on health)**	**05 Hrs.**
	1. Malnutrition, Protein energy malnutrition 2. Vitamin and mineral deficiency diseases 3. Beriberi, Scurvy, Pellagra, Rickets etc. 4. Iron deficiency diseases –Anaemia.	
	Unit Outcomes: UO 1. Learn the malnutrition and nutritional deficiency diseases. UO 2. Acquire knowledge about health and hygiene in today's life.	
III	**Unit III: Health and its maintenance**	**14 Hrs.**
	1. Definition of Health 2. Determinants of health – - The social and economic environment - The physical environment - The person's individual characteristics and behaviours 3. Key Health Indicators, (Mortality Indicators, Morbidity Indicators, Disability Rate, Nutritional Indicators, Health Care Delivery Indicators, Utilization Rates) 4. Environment health & Public health; Health-Education: Principles and Strategies 5. Disaster Management – Containment, Control and Prevention of Epidemics and Pandemics – Acts, Guidelines and Role of Government and Public	
	Unit Outcomes: UO 1. Know health, determinants of health and health indicator UO 2. Appraise the nutritional value and management.	
IV	**Unit IV: Hygiene**	**11 Hrs.**
	1. Definition; Personal, Community 2. Medical and Culinary hygiene; WASH (Water, Sanitation and Hygiene) programme 3. Rural Community Health: Village health sanitation & Nutritional committee (Roles & Responsibilities) 4. Personal & Community Hygiene: Environmental Sanitation and Sanitation in Public places	
	Unit Outcomes: UO 1. Develop awareness about Personal and Community Hygiene UO 2. Protect human health by providing hygiene and sanitation.	

Learning Resources:

1. Textbook of Human Nutrition (3rd edition), Bamji, M.S., K. Krishnaswamy & G.N.V. Brahmam Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 2009
2. Food & Nutrition (Vol I, Second Edition), Swaminathan, The Bangalore Printing &Publishing Co Ltd., , Bangalore, 1995
3. Food, nutrition & health, Vijaya Khader, Kalyan Publishers, New Delhi, 2000
4. Food Science, (5th Edition), Srilakshmi, B., New Age International Ltd., New Delhi, 2010.
5. Health, Hygiene and Nutrition, Deirdre Englehart, Instructional Fair; Workbook edition, 2004.
6. Health, Hygiene and Nutrition - 3 Tiers of a Good Living: Know Your Health, Prof. P.K. Ray, Notion Press; 1st edition, 2017.
7. Nutrition, Health and Hygiene, Gerald Beales, Heinemann Educational Books - Secondary Division; 2nd edition, 1990.
8. Food, Nutrition and Hygiene For Co-Curricular Course, R. Bansal, SBPD Publishing House; First Edition, 2021.
9. Nutrition And Food Hygiene, Prateek Kumar, Orange Books International, 2017.
10. Nutrition science by B Srilakshmi, New Age International Private Limited (7 th Edition), 2021.

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Department of Biotechnology

Course Type: GE-1
Course Title: Lab Course - III (Based on GE -I)
Course Code: 101BIO1402
Credits: 01 **Max. Marks: 50** **Hours: 30**

Leaning Objectives:

LO 1. To study of laboratory instruments and laboratory safety in special reference to health and hygiene.
LO 2. To understand the practical aspects of Domestic water safety and hygiene.
LO 3. To study the various methods of waste disposal
LO 4. To analyze and understand the nutritive values of foods.
LO 5. To determine the health level.
LO 6. To acquire the knowledge about diet.

Course outcomes:

After completion of course the student will be able to-

CO 1. know individual overall health level
CO 2. gain expertise in global wash technologies and processes from multiple perspectives.
CO 3. realize the benefits of safe water, sanitation, and hygiene.
CO 4. learn the patterns of domestic water use and waste disposal in low-resource settings

Practical No.	Unit
1	Study of laboratory instruments and laboratory safety
2	Determination of individual overall health level
3	Collection and interpretation of local data on diseases prevalence
4	Hand wash techniques
5	Domestic water safety and hygiene
6	Waste disposal
7	Estimation of ascorbic acid (Vitamin –C) from plant source
8	Demonstration of presence of pectin in Guava by preparation jelly
9	To study nutritive value of food
10	Estimation of Tannin from given sample (tea, coffee etc.)
11	Isolation of casein from milk
12	Planning of normal diet for preschool child

N.B.: Any Ten Practicals from above.