

## **PREAMBLE**

Good health is essential for a productive and fulfilling life. Health and hygiene are fundamental pillars of human development, directly influencing individual well-being and public health. This interdisciplinary course titled "**Health and Hygiene**" is designed to provide students with a overall understanding of the key concepts, practices, and challenges related to health maintenance, disease prevention, and public health systems. It introduces important concepts related to nutrition, diet, hygiene, sanitation, diseases, and mental health.

The curriculum also emphasizes the growing significance of mental health, lifestyle-related illnesses, and the integration of alternative therapies such as yoga and natural interventions in maintaining holistic health. This course is particularly valuable for students from all academic backgrounds as it fosters a multidisciplinary perspective on health and hygiene.

## **DETAILED SYLLABUS FOR GENERAL ELECTIVE**

**TITLE – HEALTH AND HYGIENE**

**CODE –**

<b>Semester</b>		<b>Nos of lectures</b>
<b>I</b>	<b>Introduction to Health and Nutrition</b>	<b>30</b>
<b>II</b>	<b>Hygiene and Sanitation</b>	<b>30</b>
<b>III</b>	<b>Health hazards I - Infectious diseases</b>	<b>30</b>
<b>IV</b>	<b>Health hazards II – Non-Infectious diseases and Mental health</b>	<b>30</b>

## Semester - I

### Course Objectives

1. Understand key determinants of health and the structure of public healthcare systems.
2. Learn fundamentals of human anatomy, balanced diet, nutrition, and nutrient requirements.
3. Identify common health problems, nutritional deficiencies, and their preventive strategies.

### Course Outcomes

1. Explain health indicators, public health concepts, and healthcare infrastructure.
2. Recognize signs of malnutrition and recommend balanced dietary practices for health promotion.

Semester I	Title of the Module	No. of Lectures – 30 lectures
	<b>Introduction to Health and Nutrition</b>	
<b>Unit I</b>	<b>Health</b>	15
	1.1 Determinants of Health, Key health indicators. 1.2 Signs of good physical, Mental and Social health 1.3 Public and Community Health Concept- Determinative factors: Family health history, Physique, Environment, Life-style and Social cultural aspects. 1.4 Human Body and Environmental Exchange – Human anatomy and Respiratory System, Digestive System and Kidneys. 1.5 Healthcare setups - Primary healthcare, Secondary healthcare and Tertiary healthcare. 1.6 Women and Infant Healthcare 1.7 Occupational Health	10
	1.8 Public health - Health problems of developed and developing countries, Health problems in India 1.9 Health Policy & Health Organizations – NIN, FNB, ICMR, IDA, WHO-India, UNICEF-India	5
<b>Unit II</b>	<b>Nutrition</b>	15
	2.1 Definition of nutrition, nutrients and energy 2.2 Food as source of nutrients, functions of food 2.3 Balanced Diet, Basal Metabolic Rate 2.4 Functions, dietary sources, effects of deficiency of Carbohydrates, Lipids, Proteins, Vitamins,	

	2.5 Macro and micro minerals ( Calcium, Potassium, Sodium, Iron, Iodine and Zinc), 2.6 Importance of water 2.7 Malnutrition and Nutritional disorders, Deficiencies of Iron, Vitamin A, Vitamin B1, Vitamin B3, Vitamin B9, Vitamin D, Calcium- Tabular	
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## Semester II

### Course Objectives

1. Understand the concepts and principles of hygiene and sanitation across personal and community levels.
2. Learn about potable water, WASH programs, and public sanitation practices.
3. Explore types of waste and methods of effective waste management, including public awareness strategies.

### Course Outcomes

1. Explain the role of hygiene and sanitation in maintaining public and personal health.
2. Identify sources of water contamination and sanitation needs in different communities.
3. To apply methods of waste reduction, recycling, and management.

Semester II	Title of the Module	No. of Lectures – 30 lectures
	<b>Hygiene and Sanitation</b>	
<b>Unit I</b>	<b>Introduction to hygiene and Sanitation</b>	
	1.1 Hygiene – Definition; Personal, Community, Medical, Culinary, Mental and Social hygiene. 1.2 Principles, and Importance of Hygiene 1.3 Potable water and sources of contamination of water 1.4 WASH (Water, Sanitation and Hygiene) programme	07
	1.5 Basic Sanitation and needs in village place, towns, and semi- urban areas, 1.6 Disinfection and Sterilization 1.7 Community & Personal Hygiene: Environmental Sanitation and Sanitation in Public places. 1.8 Relation between health, hygiene & sanitation	08

Unit II	Waste Management	
	<p>2.1 Waste Management: Different Types and its Management, Non-hazardous waste - Municipal Solid Waste, Industrial Solid Waste, Agricultural Waste and Residues. Hazardous Waste - Chemical waste, Radioactive waste, Biomedical waste - Pathological waste, Sharps, Cultures and stocks of infectious agents and associated biologicals, E-Waste</p> <p>2.2 Waste management through Reduce, Recycle and Reuse Kitchen waste management</p> <p>2.3 Public Awareness through Digital Media</p>	15

### **References for Semester I and II**

1. Gordon Edlin and Eric Golanty (2010) Health & Wellness (10th Edn) Jones & Barlett Publisher.
2. Bamji, M.S., K. Krishnaswamy & G.N.V. Brahman (2009) Textbook of Human Nutrition (3rd edition) Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Srilakshmi, B., (2010) Food Science, (5th Edition) New Age International Ltd., New Delhi
4. N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and Principles, Third Revised Edition.
5. Healthy Living <https://www.nhp.gov.in/healthylivingViewall>
6. General Hygiene & Environmental Health, 2005, Edition: 1<sup>st</sup>, Publisher: OSMU, Editors: Nadvorniy M.M.
7. Village health sanitation & Nutritional committee  
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=149&lid=225>
8. WASH <https://www.unicef.org/wash/> and  
[https://www.unicef.org/wash/files/UNICEF Strategy for WASH 2016 2030.PDF](https://www.unicef.org/wash/files/UNICEF_Strategy_for_WASH_2016_2030.PDF)
9. Sharma, M. Branscum, P. & Atri, A. (2014). Introduction to Community and Public Health. USA: John Wiley & Sons.
10. Murali, K. V. S. G. K. (2012). Environmental Sanitation. New Delhi: Reem Publications.
11. Nath K. J. & Sharma V. P. (2017). Water and Sanitation in the New Millennium. New Delhi: Springer.
12. Ameer Mubaslat. Introduction to Waste Management, March 2021, Publisher: international Youth Ambassadors Foundation

### **Semester - III**

## Course Objectives

1. Understand major infectious diseases, transmission, and treatment.
2. Learn about antimicrobial agents and resistance.
3. Explore diagnostic and healthcare support services in disease management.

## Course Outcomes

1. Describe key infectious diseases and their management.
2. Interpret the role and challenges of antimicrobial use.
3. Recognize the functions of diagnostic and support services in healthcare.

<b>Semester III</b>	<b>Title of the Module</b>	<b>No. of Lectures – 30 lectures</b>
	<b>Health hazards I - Infectious diseases</b>	
<b>Unit I</b>	<b>Infectious Diseases and Their Management</b>	
	1.1 Causative agents of Infectious Diseases, transmission, prevention and treatment of specified diseases-I  1.1.1 Tuberculosis 1.1.2 Typhoid 1.1.3 Tetanus 1.1.4 Cholera 1.1.5 Candidiasis 1.1.6 Influenza 1.1.7 AIDS	15
<b>Unit II</b>	<b>Infectious Diseases, Antimicrobials and Diagnostic Services</b>	
	2.1 Causative agents of Infectious Diseases, transmission, prevention and treatment of specified diseases -II 2.1.1 Malaria 2.1.2 Dengue 2.1.3 Tetanus	05
	2.2 Antimicrobial Resistance, Antibiotics, Antifungal agents, Antiviral agents (Tabular format), Bioactive compounds	04
	2.3 Role of Diagnostics - Microbiology Laboratory, Radiology & Imaging Services, Hospital Laboratory, Blood Bank, Ambulance Services, Pharmacy.	06

## Semester - IV

## Course Objectives

1. Understand the causes, risk factors, and prevention of major non-infectious and lifestyle-related diseases.
2. Explore the concept of mental health, and major psychological disorders.
3. Learn strategies for promoting healthy lifestyles and mental well-being.

## Course Outcomes

1. Identify major non-infectious diseases and their lifestyle-related risk factors.
2. Explain key mental health concepts and recognize common psychological disorders.
3. Apply knowledge of prevention strategies, stress management, and natural therapies to promote overall well-being.

Semester IV	Title of the Module	No. of Lectures – 30 lectures
	<b>Health hazards II - Non-Infectious diseases and Mental health</b>	
<b>Unit I</b>	<b>Non-Infectious diseases</b>	<b>15</b>
	<p>1.1 Major chronic diseases/ Lifestyle Illnesses with risk factors involved:</p> <p>1.1.1 Cancer,</p> <p>1.1.2 Obesity,</p> <p>1.1.3 Cardiovascular Diseases,</p> <p>1.1.4 Diabetes</p> <p>1.2 Prevention and eradicating underlying conditions: Ill effects of smoking, alcoholism and drug abuse</p> <p>1.3 Promotion of Healthy Lifestyle through Physical Activity, Diet and Stress Management</p>	
<b>Unit II</b>	<b>Mental health</b>	<b>15</b>
	<p>2.1 Definition of Mental health by WHO and necessity of mental well being.</p> <p>2.2 Psycho Socio-Cultural and Biological Determinants of Mental Health, Psychobiome</p> <p>2.3 Mental Health Disorders - Concepts of Abnormality and Psychological Disorders,</p> <p>2.4 Major Psychological Disorders - schizophrenia, obsessive compulsive disorders, domestic violence</p>	

	2.5 Strategies for prevention, possible interventions and Rehabilitation 2.6 Role of natural therapies and yoga in mental health management	
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### **References for Semester III and IV**

1. Ananthanarayan and Panicker's, Textbook of Microbiology, 12th Edition 2022
2. Ananthanarayan and Panicker's, Textbook of Microbiology, 10th edition
3. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
4. <https://ncert.nic.in/textbook/pdf/lepy104.pdf>
5. <https://www.apa.org/ed/precollege/topss/lessons/psychological-disorders.pdf>
6. Rajaneesh Kumar Gupta *et al* ( 2022), Important role of yoga in mental well-being, DOI: 10.53555/ks.v10i2.3182
7. <https://my.clevelandclinic.org/health/treatments/9303-depression-alternative-therapies>
8. Muhammad Riaz Et al (2022), Phytobioactive compounds as therapeutic agents for human diseases: A review, DOI: 10.1002/fsn3.3308