



**MAHARAJA SURAJMAL BRIJ UNIVERSITY
BHARATPUR (Rajasthan)**

SYLLABUS

(As Per NEP 2020)

**M.Sc. Home Science (Food and Nutrition)
(SEMESTER SCHEME)**

III & IV SEMESTER EXAMINATION 2025-2026

& onwards

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प्रभोरी अकादमिक प्रबन्ध

Vindya Sharma

Ravindra

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III SEMESTER

S.No	Paper Code	Paper Name	Credit	Teaching hrs/ Week	Weightage (%)			
					CW	MTE	ETE	Max Marks
Discipline Specific Core (DSC):								
20.	HFN 411	Nutrition in Disease (Theory)	4	4	10	20	70	100
21.	HFN 412	Institutional Food Administration (Theory)	4	4	10	20	70	100
22.	HFN 412A	Institutional Food Administration (Practical)	2	2	5	10	35	50
23.	HFN 413	Nutrition for Vulnerable and special group (Theory)	4	4	10	20	70	100
24.	HFN 413A	Nutrition for Vulnerable and special group (Practical)	2	2	5	10	35	50
Discipline Specific Elective (DSE):								
25.	HFN 414	Hospital Administration (Theory)	4	4	10	20	70	100
OR								
26.	HFN 415	Nutrition for Various Games and Sports (Theory)	4	4	10	20	70	100
Value Added Course (VAC):								
27.	PGVAC 02	Emotional Intelligence	2	2	5	10	35	50
Seminar/Internship /Dissertation								
28.	-	Seminar	2	2	5	10	35	50
Total Credit in the Semester			24	24	-	-	-	600

Summary: III Semester		
S.No.	Particulars	Credits
1.	Discipline Specific Core (DSC):	16
2.	Discipline Specific Elective (DSE):	04
3.	Value Added Course (VAC):	02
	Seminar/Internship/Dissertation	02
	Total	24

CW(Classwork): It would include attendance, assignment, class test/ quiz test, ppt, play learn by fun activities, etc.

Vindya Sharma

Ranjan

Swati

Pratibha

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IV SEMESTER

S.No	Paper Code	Paper Name	Credit	Teaching hrs/Week	Weightage (%)				
					CW	MTE	ETE	Max Marks	
Discipline Specific Core (DSC):									
29.	HFN 416	Human Physiology (Theory)	4	4	10	20	70	100	
30.	HFN 416A	Human Physiology (Practical)	2	2	5	10	35	50	
31.	HFN 417	Nutrition Essentials of Sports (Theory)	4	4	10	20	70	100	
32.	HFN 417A	Nutrition Essentials of Sports (Practical)	2	2	5	10	35	50	
33.	HFN 418	Nutraceuticals and Health Foods (Theory)	4	4	10	20	70	100	
Discipline Specific Elective (DSE):									
34.	HFN 419	Health Promotion (Theory)	4	4	10	20	70	100	
OR									
35.	HFN 420	Food Laws and Food Safety (Theory)	4	4	10	20	70	100	
Internship/ Dissertation									
36.		Internship/Dissertation	4	-	-	-	-	100	
Total Credit in the Semester			24	-	-	-	-	600	

Summary: IV Semester		
S.No.	Particulars	Credits
1.	Discipline Specific Core (DSC):	16
2.	Discipline Specific Elective (DSE):	04
3.	Internship / Dissertation	04
Total		24
CW (Classwork): It would include attendance, assignment, class test/ quiz test, ppt, play learn by activities, etc.		

Vindya

Ravikiran

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Semester - III

Paper- HFN 411

Nutrition in Disease (Theory)

Unit- I: Introduction to Medical Nutrition Therapy

- Definitions and Role of Dieticians in Health Care
- The Nutritional Care Process (NCP)
- Importance of coordinated Nutritional and Rehabilitation services.
- Patient Care and counselling
- Therapeutic adaptations of a normal diet and modes of feeding
- Different types of diets and methods of feeding patients

Unit- II: Disease of Digestive Tract, Liver, Gall bladder and Cardio-vascular system

- Peptic ulcer, Gastritis, Diarrhoea, GERD
- Mal-absorption Syndrome, Ulcerative Colitis, Constipation
- Cirrhosis of liver
- Jaundice, Hepatitis, Hepatic Encephalopathy
- Disease of gall bladder
- Acute and Chronic pancreatitis
- Atherosclerosis
- Hyperlipidemia
- Hypertension

Unit- III: Diet in Weight Management and Febrile Disorders

- Diet management during under weight
- Diet Management during Overweight
- Metabolic changes during fever
- Diet management during Typhoid
- Diet management during Tuberculosis

Unit- IV: Diet in Metabolic Disorders

- Incidence and predisposing factors of Diabetes
- Symptoms-types and tests for detection
- Metabolism in diabetes
- Dietary treatment & meal management
- Hypoglycemic agent, insulin and its types
- Complication of diabetes

Recommended Readings:

1. Antia, F.P. and Abraham, P.: Clinical Dietetics and Nutrition, Oxford University Press, New Delhi.
2. Shils, M.E. Olson, J. and Shike, M.: Modern Nutrition in Health and Diseases, KM Varghese Company, Bombay.
3. Garrow, J.S., James, WPT and Ralpti A.: Human Nutrition and Dietetics, Churchill Livingstone.
4. Mahan, L.K. and Escott Stump S. (2000): Krause's Food Nutrition and Diet Therapy 11th edition, W.BSaunders Ltd.
5. Williams, S.R. (2001) Basic Nutrition and Diet Therapy. 11th ed. Times Mirror Mosby College Publishing
6. Khanna K, Gupta S, Seth R, Passi S J, Mahna R, Puri S (1997). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt Ltd

Vindya

Roshni

Swati

Randhawa

प्रभासी अकादमिक

Paper- HFN 412

Institutional Food Administration (Theory)

Unit- I: Institutional Food Management and Principles and Functions of Management:

- Development of Food Service Institutions
- Approaches to Management
- Management: Theories, Principles and Functions
- Tools of Management
- Management of Resources.

Unit- II: Organizations of Spaces and Equipment

- Kitchen and storage spaces
- Service Areas
- Catering Equipment
- Selection of Equipment
- Equipment Design, Installation and Operation
- Purchasing and maintenance of Equipment

Unit- III: Food Management and Hygiene, Sanitation and safety

- Characteristics of Food, Food Purchasing, and Inventory Management.
- Menu and its types and menu Planning,
- Food Production,
- Food Service,
- Clearing, Cleaning and Waste Management
- Marketing the products of Catering
- Hygiene and Sanitation,
- Safety and Security

Unit- IV: Financial and Personnel Management

- Definition and scope
- Costing and budgeting
- Pricing and Accounting
- Personnel Management Concepts
- Staff Employment
- Employee Benefits
- Staff Training and Development
- Legal Aspects of Personnel Management

Recommended Readings:

1. West, B. Bessie & Wood, Levelle (1988): Food Service in Institutions, 6th Edition, Palacio June Macmillan Publication Company, New York.
2. Sethi Mohini (1993): Catering Management: An Integrated Approach, 2nd Edition, Wiley Publication.
3. Desseler, Garry (1987): "Personnel Management: Modern Concepts and Techniques", Prentice Hall, New Jersey.
4. Keiser, J. & Kaillo, E. (1974): Controlling and Analysis of Cost in Food Service Operations. Wiley & Sons, New York.
5. Sethi Mohini (2004): Institutional Food Management, 1st Edition, New Age International (P) Ltd, Publishers.

Vindya

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Sewati

Ravi

प्रभाती अकादमी

Paper- HFN 412A

Institutional Food Administration (Practical)

1. Survey to find out prevailing prices of the various foodstuffs
2. Analysis of the relationship between purchased amount, edible portion and cooked weight of food stuffs
3. Recipe conversion
4. Planning and organizing meals for College canteen
5. Planning and organizing meals for working women Hostel
6. Planning and organizing meals for Birthday Party
7. Planning and organizing meals for Industrial canteen
8. Visit to different types of food service institutions and studying the following: Organization, Physical Plan and Layout, Food Service equipment, Sanitation and Hygiene.

Vindya Ghosh

Ranjan

Pooja

Swati

प्रभाती अकादमिक प्रथम

Nutrition for Vulnerable and Special group (Theory)

UNIT- I

- Classification of Nutrients, Food Groups, Food Pyramids, Food Exchange List, Fundamentals of meal planning, Allied Aspects of Meal Planning, Dietary Allowances for Nutrient
- Why are the Recommendations set-up?, General principles of deriving RDA, How is RDA Derived?, Reference Body Weights of Indians, Reference Person
- Recommended Dietary Allowances for Indians, Uses of Recommended Dietary Allowances, and Limitations of RDA.

UNIT- II

- Energy Metabolism - Concept of Energy Balance, components of energy expenditure and factors affecting the same. Unit of energy, Biologic oxidation of foodstuff. Measurement of energy expenditure.
- Direct and Indirect Calorimetry. Physiological energy values. Basal and Resting metabolism. Energy expenditure in man. Estimating energy requirements – Factorial approach and BMR factors.

UNIT- III

- Psychological conditions, Nutrient needs, Dietary Needs and Socio-Cultural aspects for the following: -

Feeding of Normal Infant, Pre School, School children, Adolescent Boys, Girls, Adult Man - Woman and Elderly Person

UNIT- IV

- Nutrition during special conditions:
 - Industrial Workers
 - Space
 - Extreme Climatic Conditions

Recommended Readings:

1. Recommended Dietary Allowances for Indians, ICMR, 1989.
2. Bamji M.S., Rao N.P. and Reddy V. (1996): Textbook of Human Nutrition. 11th Ed. Oxford and IBHPublishing Co. Pvt. Ltd., New Delhi.
3. Shils Me, Oslan J.A., Shike M. and Ross A.C. (1999): Modern Nutrition in Health and Diseases, 9thEd. Williams & Williams
4. Dietary Guidelines for Indians, NIN, ICMR, (1998)
5. Norman N., Potter Joseph, H Hotchkiss (1995) Food Science. 5th Ed. Springer US
6. Hughes, Q., Bennion, M (1986) Introductory Foods. 3rd Ed. Mc Millan Publishing Company
7. Srilakshmi B. (2010) Food Science. 5th Ed. New Age International Publishers

Vinay Chandra

Ravindran

P. S. S.

Sweati

20/10/19

11/10/19 अकादमिक प्रथम

Paper- HFN 413 A

Nutrition for Vulnerable and special group(Practical)

1. Calculation of Energy requirements.
2. To calculate BMR using different formulas
3. Calculation of energy value of food
4. Identification of sources of foods rich in protein, energy, calcium, iron, vitamin A/beta – carotene, ascorbic acid.
5. Preparation of protein, energy, calcium, iron, vitamin A and ascorbic acid rich recipes.
6. Standardization of serving sizes, portions, costs of locally available common food, practical informal and informal table setting table manners.
7. Planning preparation and nutritional calculation of various diets for
 - Feeding of Normal Infant.
 - Feeding of Pre School and School children.
 - Feeding of Adolescent Boys and Girls.
 - Feeding of Adult Man and Woman.
 - Feeding of Elderly Person.
 - Industrial Workers

Vindya
Prathma

Jwala
Ravi Narayan

Prathma
प्रभाषी अकादमिक प्रथम

Paper- HFN 414

Hospital Administration (Theory)

UNIT-I

- Definition of Management
- Functions of Management
- Principle of Management
- Contribution of F.W. Taylor, Henry Fayol, Elton Mayo, Mc Gregor and Peter F. Drucker
- Function of Manager
- Delegation
- Planning:- Objectives – Strategies – Programmes – Policies, Long range and short range plans – strategic considerations in planning

UNIT- II

- Need for organizational hierarchy in large organizations
- Principles of sound organization
- Organization structure - span of control
- Organization chart.
- Authority - Line and staff authority, Principles of Directing
- Motivation - Importance and characteristics, Positive and negative Motivation, Theories of motivation

UNIT- III

- Interpersonal relations; group dynamics and group behaviour, formal & informal
- Groups and Organizational climate
- Defining and classifying groups -
 - Stages of group development toward external conditions imposed on the group,
 - Group member resources
 - Group structures
 - Group processes
 - Group tasks
 - Group decision making
- Understanding work teams - Teams versus groups – differences, Types of teams, Creating effective teams, Turning individuals into a team.
- Basic approaches to leadership- What is leadership. Trait theories. Behavioural theories. contingency theories, Contemporary Issues in Leadership
- Trust

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UNIT-IV

- Meaning of communication - Types of communication- formal and informal channels, Barriers to effective communication.
- Importance of effective communication in organization
- Importance of two way communication
- Principles of effective listening - telex, facsimail (fax), tele - conferencing. Intercom apparatus
- Modern means of communication – Internet, E-mail. Communication network
- Role of perception
- The individual: Foundation of Individual Behaviour
- Biographical characteristics, Ability learning. Value, Values attitudes
- Job satisfaction
- Personality and Emotions

Recommended Readings:

1. WHO, Health Education: Comprehensive Guidelines of Planning, Implementation and Evaluation (WHO Regional Office for South Asia, New Delhi)
2. Michael E. Hattersley, Linda J. McJannet and Linda M. McJannet, Management Communication:
3. Principles and Practice (McGraw-Hill Co.) ISBN 0070270414
4. W. Jack Duncan, Peter M. Ginter and Linda E. Swayne, Strategic Management of Health Care Organizations (Blackwell Publishers, Massachusetts, USA) ISBN 1-55786- 534-5
5. S.A. Sekar, Hospital Information Systems – A Concise Study (PHI Learning Pvt. Ltd., New Delhi)
6. B.M. Sakharkar, Principles of Hospital Administration and Planning (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi)
7. C.M. Francis and et al., Hospital Administration (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi)
8. S. Srinivasan (ed.), Management Process in Health Care (Voluntary Health Association of India, New Delhi)

Vindya Sharma

Ravi Narayan

Prasanna

Swati
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Paper- HFN 415

Nutrition for Various Games and Sports (Theory)

UNIT- I Principles of Sports Nutrition

- Benefits of Healthy Eating and the Importance of Sports Participation
- Role of Nutrition in Sports, Fitness, and Performance
- Nutrition for Endurance Sports: Proper Fuelling Strategies, Hydration and Electrolyte Balance, Caloric Needs, Protein Intake, and Recovery Nutrition

UNIT- II Nutrition in Various Sports:

- Introduction to racket sports (Lawn tennis, Badminton, Squash), Training diet, hydration and post recovery meal, Competition day eating and special issues and requirements of racket players-hydration, body fat and travel.
- Proper Nutrition for Weight Lifting and Power Events (Judo, Weight Lifting, Boxing, Wrestling)
- Nutrition in Team Sports (basketball, football, hockey, rugby, volleyball):
- Introduction, Physiological characteristics of team sports, and their dietary habits, fluid intake during activity and use of supplements.

UNIT- III Doping in Sports and Women in Sports

- The evolution of doping.
- Banned substances and their practices and effects, the ethics of doping.
- The evolution of anti doping policy: problems and solutions, the future of anti doping policy-issues and challenges.
- Anti doping committee.
- History of women in sports and their participation in Olympics.
- Gynaecological disorders in female sportsperson.
- Menarche in athletes, secular trends and impact of diet on menarche and menstrual functions.

UNIT- IV Nutrition for disability sports and Weight Management and Eating Disorders

- Introduction to disability sports and Classification of athletes by disability
- Energy, Fat, fluids, electrolytes, micronutrients and other nutrients Requirements
- Body composition assessment
- Disabled sports organization
- Weight Loss in Sport: Principles, Recommendations and Considerations.
- Eating Disorders (Anorexia, Bulimia and Binge Eating Disorder)
- Weight Gain in Sport, Obesity and Health: Precautions and Treatment.

Recommended Readings:

1. Ronald J. Maughan, Nutrition in sport (volume vii of the Encyclopaedia of Sports Medicine), Blackwell Science Ltd, 2000.
2. Dosil, Joaquín. Eating disorders in athletes. John Wiley & Sons Inc., 2008.
3. Richard T. Cotton (Ed). Lifestyle & Weight Management Consultant Manual. American Council on Exercise, USA, 1996.
4. Marie Dunford and J. Andrew Doyle. Nutrition for Sport and Exercise. Thomson Wadsworth, 2008.
5. Nutrition for Fitness and Sports, Melvin Williams; Brown, Benchmark, 1995.

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Semester - IV

Paper- HFN 416

Human Physiology (Theory)

UNIT- I: Cell structure and function of inclusion bodies and Blood

- Introduction to Physiology, homoeostatic regulation
- Structure and Function of a cell
- Functional complexes
- Transport across cell membranes – Diffusion osmosis, active transport processes, vascular transport processes, and transcellular communication.
- Composition and functions of blood with volume and physical properties
- Blood groups
- Structure and functions of platelets, haemoglobin
- Coagulation of blood
- Plasma proteins and their functions

UNIT- II: Physiology of

- **Digestive System** - Physiology of salivary secretion, mouth and oesophagus; stomach, pancreas, liver and gall bladder; small and large intestine; and digestion and absorption in the gastro-intestinal tract
- **Respiratory System** - Introduction to respiratory system; mechanism of respiration; uptake and transport of respiratory gases; and regulation of breathing.
- **Excretory System** - Structure and functions of kidneys; mechanism of urine formation; and role of kidneys in water and electrolyte balance

UNIT- III: Physiology of nervous system

- Basic properties of nerves and receptor organs,
- Spinal cord and brain stem – an introduction,
- Hypothalamus cerebral cortex –structure and topographical representation,
- The introduction to autonomic nervous system.
- The electroencephalogram, cerebrospinal fluid.

UNIT- IV: Physiology of cardio-vascular system

- Basic properties of heart
- Cardiac output
- Blood pressure and factors affecting it
- Hypertension

Recommended Readings:

1. Guyton, A.C. and Hall, J. B. (1996): Textbook of Medical Physiology, 9th Edition, W. B. Saunders Company, Prime Books (Pvt) Ltd., Bangalore.
2. Chatterjee, C. C. (1992): Human Physiology, Vol I and II, 11th Edition Medical Allied Agency, Calcutta.
3. Jain A.K. (2005): Textbook of Physiology, 3rd Edition, Avichal Publishing Company

Vindya Sharma

Ravindra

Prakash

Surendra

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Paper- HFN 416A

Human Physiology (Practical)

1. Introduction to the microscope and Laboratory
2. Collection of Blood Sample
3. Estimation of haemoglobin by cyanmet haemoglobin method.
4. Determination of clotting and bleeding time
5. Determination of RBC and WBC count
6. Determination of blood group and Rh factor
7. Measurement of BP, Pulse rate - before and after exercise
8. Demonstration/ visit to hospital for ECG, Dialysis
9. PCV - determination
10. Assessment of lung capacity - Demonstration / visit to hospital.
11. Analysis of Lab reports and planning of Diets

Vindya Sharma

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Paper- HFN 417

Nutrition essentials of Sports (Theory)

UNIT- I

- Nutrition for Athletes
- General considerations for the physically active individual.
 - Exercise and food intake.
 - Role of micronutrients in sport and physical activity.
 - Biological functions of vitamins and minerals.

UNIT- II

- Carbohydrate feedings before, during and following intense exercise -
 - The pre game, during game and post game meal.
 - Recommended Oral Rehydration Solution.
 - Evaluating Sports Drinks

UNIT- III

- Weight Management and Eating Disorders -
 - Weight Loss in Sport: Principles, Recommendations and Considerations.
 - Weight Loss, Disordered Eating (Anorexia, Bulimia and Binge Eating Disorder) and Female Athlete Triad.
 - Weight Gain in Sport Obesity and Health: Precautions and Treatment.

UNIT- IV

- Ergogenic aids -
 - Pharmacological agents (Alcohol, Amphetamines, Caffeine, Cocaine, Diuretics, Morphin)
 - Hormonal Agents (Anabolic steroids, Human Growth Hormone)
 - Oxygen supplementation, carbonate loading and phosphate loading.
 - Potential Adverse Effects of Ergogenic Aids.
- Supplements and Sports Foods: Dietary supplements, Energy bars, Protein, Multivitamins, Body building supplements.

Recommended Readings:

1. Sports Nutrition Guidebook, by Nancy Clark, Leisure Press, 1990.
2. Ron Woods: Social Issues in Sport, HK, 2011
3. Ronald J. Maughan, Nutrition in sport (volume vii of the Encyclopaedia of Sports Medicine), Blackwell Science Ltd, 2000.
4. Dosil, Joaquín. Eating disorders in athletes. John Wiley & Sons Inc., 2008.
5. Marie Dunford and J. Andrew Doyle. Nutrition for Sport and Exercise. Thomson Wadsworth, 2008.
6. Richard T. Cotton (Ed). Lifestyle & Weight Management Consultant Manual. American Council on Exercise, USA, 1996.
7. Houlihan, B. "Dying to Win", 2nd Edition. Council of Europe Publishing. May-2002

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भारतीय अकादमिक प्रथम

Paper- HFN 417A

Nutrition essentials of Sports (Practical)

- Dietary assessment of an athlete using 24-hour recall method
- Calculation of daily energy and macronutrient requirements for athletes
- Planning of pre-exercise, during-exercise and post-exercise meals
- Preparation of Recommended Oral Rehydration Solution (ORS)
- Evaluation and comparison of commercial sports drinks through label reading
- Assessment of body composition (BMI, waist circumference) for weight management
- Preparation of weight loss and weight gain diet plans for athletes
- Case study analysis of eating disorders and Female Athlete Triad
- Identification and classification of ergogenic aids and sports supplements
- Evaluation of dietary supplements for efficacy, safety and adverse effects

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PAPER- HFN 418

NUTRACEUTICALS AND HEALTH FOODS (THEORY)

UNIT- I: Nutraceuticals – Concept, Classification and Applications

- Definition and concept of nutraceuticals
- Use of nutraceuticals in traditional health sciences (Ayurveda, Unani, traditional diets)
- Role of nutraceuticals in prevention and control of diseases
- Classification of nutraceuticals
- Food and non-food sources of nutraceuticals
- Mechanism of action of nutraceuticals in human health

UNIT- II: Effects of Nutraceuticals on Gastrointestinal Health

- Prebiotics and probiotics: concept and definitions
- Role of prebiotics and probiotics in gastrointestinal health
- Additional health benefits of prebiotics and probiotics
- Beneficial microbes and their functions
- Prebiotic ingredients in foods
- Types of prebiotics and their effects on gut microbiota

UNIT- III: Functional Foods

- Functional foods: definition and characteristics
- Difference between nutraceuticals and functional foods
- Development of functional foods
- Factors influencing formulation of functional foods
- Research frontiers in functional foods

UNIT- IV: Development, Regulation and Marketing of Nutraceuticals and Functional Foods

- Development of nutraceuticals and functional foods
- Standards and guidelines for health claims
- Process of development: Pre-clinical studies, Clinical studies
- Marketing issues related to nutraceuticals and functional foods
- Regulatory issues and challenges
- Regulatory bodies governing nutraceuticals and functional foods in India

Reference Readings:

1. Colleen C., Kerry G., Keith R., Salter Venzon D., Samantha I. (2012). Phytochemicals: Health Promotion and Therapeutic Potential. 1st Ed. CRC Press
2. Bagchi D., Francis C. Lau, Ghosh D.K. (2010). Biotechnology in Functional Foods and Nutraceuticals. 4th Ed. CRC press

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Prasanna

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PAPER- HFN 419

HEALTH PROMOTION (THEORY)

UNIT I: Introduction to Health and Health Promotion

Concept and definitions of health; dimensions of health; negative health and well-being; relationship between well-being and ill health; fitness and positive health; concept, goals and principles of health promotion; Ottawa Charter for Health Promotion; Bangkok Charter for Health Promotion.

UNIT II: Determinants of Health Promotion - Social and Cultural Values

Concept of attitudes and their role in health promotion; identification and measurement of attitudes; process of attitude change; concept of values; role of values in health promotion; essential social and individual values influencing health; interrelationship between social and individual values; theories of behavior change; health, health care and determinants of health.

UNIT III: Health Promotion and Health Education

Concept of prevention and levels of prevention; health protection; models of health promotion; principles and steps of program planning; health promotion in wider social contexts; definition and scope of health education; health educators and their roles; approaches, methods and ingredients of health education; orientations of health education; role of communication in health promotion; health promotion in various settings such as hospitals, schools, colleges, workplaces and communities.

UNIT IV: Health Promotion - Strategic Planning and Evaluation

Concept of strategic planning in health promotion; prevention and control of oral health problems; interventions and promotion of oral health programmes; evaluation of preventive and promotive programmes; surveillance and monitoring of oral health status.

Recommended Readings:

1. McKenzie, J. F., Neiger, B. L., & Thackeray, R. (2009). Planning, Implementing, & Evaluating Health Promotion Programs (6th ed.). San Francisco, Pearson Education, Inc.
2. Office of Disease Prevention and Health Promotion: U.S. Department of Health and Human Services (2009). Healthy People 2020: The Road Ahead. Washington D.C.: Author Available at: <http://www.healthypeople.gov/hp2020/>
3. Principles of health education and health promotion, (2nd edition), J. Thomas Butler, Morton Publishing Company, Englewood, Colorado.
4. Girdano, d.a., Occupational Health Promotion. Macmillan Publishing Co., New York: 1986.
5. Hyner, Gerald C. And Melby, Christopher L., Priorities for Health Promotion and Disease Prevention. Eddie Bowers Publishing Company, Dubuque, Iowa, 1987.

Vinod Sharma

Rancharan

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Swati

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प्रभासी अकादमिक प्रथम

PAPER- HFN 420

FOOD LAWS AND FOOD SAFETY (THEORY)

UNIT- I: Introduction to concepts of food safety

- Food safety and quality control in food industries, physical, biological and chemical hazards to food supply, bioterrorism a threat to food safety
- Current challenges to food safety

UNIT- II: Food adulteration

- Nature of adulterants
- Methods of evaluation of food adulterants and toxic constituents.
- Food Hazards
- Principles of food quality assurance, total quality management (TQM) – goods manufacturing/management practices, good hygienic practices, good lab practices, general awareness and role of management practices in quality control Food safety management
- Applications of HACCP in food safety, concept of food traceability for food safety

UNIT-III: Consumerism

- Definition, Consumer protection, Consumer Education, Legal modes of protection and Machinery for redressal of consumer grievances.
- Food Laws and Standards in India:
 - Food Safety and Standards (FSS) Act, 2006, FSS Rules and Regulations, 2011.
 - Agricultural Produce Act, 1937 (Grading and Marketing)
 - Sugar (Control), Order,
 - Export (Quality Control & Inspection), Act, 1963 and Rules
 - Bureau of Indian Standards.
 - Legal Metrology
 - International Food Control Systems including CODEX
- Regulation of food safety, food labelling, food laws and food adulteration with respect to India

UNIT- IV: Role of International regulatory agencies

- Codex alimentarius commission, USFDA, International organization for standards (ISO) and its standards for food quality and safety (ISO 9000 series, ISO 22000, ISO 15161, ISO 14000)

Recommended Readings:

1. Early, R. (1995) Guide to Quality Management Systems for the Food Industry 1st Ed. Blackie, Academic and professional, London.
2. Gould, W.A and Gould, R.W. (1998) Total Quality Assurance for the Food Industries. 1st Ed. CTI Publications Inc. Baltimore.
3. Pomeroy, Y. and McLoari, C.E. (1996): Food Analysis: Theory and Practice. 2nd Ed. CBS publishers and Distributor, New Delhi.
4. Bryan, F.L. (1992): Hazard Analysis Critical Control Point Evaluations A Guide to Identifying Hazards and Assessing Risks Associated with Food Preparation and Storage. 9th Ed. World Health Organization, Geneva
5. Kirk, R.S and Sawyer, R. (1991): Pearson's Composition and Analysis of Foods, Longman Scientific and Technical, England.
6. Food and Agricultural Organization (1980): Manuals of Food Quality Control. Additives Contaminants Techniques, Rome.
7. Furia, T.E. Ed. (1980) Regulatory Status of Direct Food Additives. CRC Press, Florida.
8. Kramer, A. and Twigg, B.A. (1970). Quality Control for the Food Industry. 3rd Ed. AVI, Westport.
9. Rekha S. Singhal, Pushpa R. Kulkarni, Dananesh V. Rege, (1997) Hand Book of Indices of food Quality and Authenticity, wood head Publishing Ltd.
10. Hubbard, Merton R. (2003). Statistical Quality Control for the Food Industry, 3rd Ed, Springer.

Vindya Sharma

Rajendra

Prakash

Swati

Prakash

प्रभारी अकादमिक प्रथम