

DIPLOMA IN HEALTH AND SANITATION

PAPER I: Human Anatomy and Physiology

PAPER II: Community Health and Nutrition

PAPER III: Environmental Sanitation

PAPER IV: Public Health Administration

PAPER V: Behavioral Science and Communication

PERIYAR UNIVERSITY (PRIDE)

DISTANCE EDUCATION

DIPLOMA IN HEALTH AND SANITATION

Paper I: HUMAN ANATOMY AND PHYSIOLOGY

Unit I Musculo-Skeletal System and Sense Organs

Musculo-skeletal system: structure and functions of bone, cartilage and connective tissues; Types of muscles, structure and functions. Sense Organs: Structure and function; Role of skin, eye, nose and tongue in perception of stimuli

Unit II Central Nervous and Endocrine System

Central Nervous System: Structure and function of brain and spinal cord; Hypothalamus and its role in various body functions; Structure and functions of neuron and role of neurotransmitters. Endocrine system: Structure, function and role of hormones and regulation of hormonal secretion.

Unit III Cardio-Respiratory System

Circulatory System: Structure and the functions of heart and blood vessels; regulation of cardiac output and blood pressure. Respiratory system: Structure and function; mechanism of respiration; Role of lungs in the exchange of gases; Effect of exercise and training on cardio-respiratory system.

Unit IV Digestive and Excretory System

Digestive system: Structure and functions; Secretory, digestive and absorptive functions; Role of liver, pancreas and gall bladder in digestion process. Excretory system: structure and function of nephron and urine formation; Role of kidney in water, electrolyte and acid base balance.

Unit V Blood, Reproductive and Immune System

Blood system: Formation and function of plasma proteins; Erythropoiesis; Blood groups and Rh factor; Blood indices for diagnosis of specific diseases or

disorders. Immune system: Cell mediated and humoral immunity; Activation of WBC and production of antibodies; Role of inflammation and defense. Reproductive system: structure and function of male and female reproductive organs.

References:

1. Subramaniam and Kutty.S.M. (2001). Text Book of Human Physiology, S. Chand & Company Ltd, New Delhi.
2. Chatterjee, C.C. (1998). Human Physiology. Medical Allied Agency, Calcutta.
3. Evelyn Pearce. (1997). Anatomy and Physiology for Nurses, 16th Edition, Jaypee Brothers, New Delhi.
4. Yadav, J. (1995). Text Book of Physiology for Dental Students. Jaypee Brothers, Medical Publishers Private Limited, New Delhi.
5. Ganong, W. F. (1985): Review of Medical Physiology, 12th Edition, Lange Medical Publication.
6. Guyton, A.C,(1985): Function of the Human body, 4th Edition , W.B. Sanders Company, Philadelphia.
7. Guyton, A.C, and Hall, J. B. (1996): Text Book of Medical Physiology, 9th Edition ,W.B. Sanders company, Prime Books (Pvt.) Ltd., Bangalore.
8. Wilson, K.J.W. and Waugh, A. (1996): Ross and Wilson Anatomy and Physiology in Health and Illness, 8th Edition, Churchill Livingstone.
9. McArdle, W.D., Katch, F.I. and Katch, V.L. (1996): Exercise Physiology. Energy, Nutrition and Human performance, 4th Edition, Williams and Wilkins, Baltimore.
10. Jain, A.K., Textbook of physiology. (1995) Vol I and II. Avichal publishing co., New Delhi.

Paper II: Community Health and Nutrition

Unit I:

Fundamentals of Human Nutrition: Nutrition and Health definition; Nutrients: Carbohydrate, protein, fat, vitamins, minerals classification and its physiological functions; digestion, absorption and metabolism of nutrients; Physiological functions of water and its role in electrolyte balance; Definition of energy and calorie; the concepts of energy balance and expenditure.

Unit II

Nutrition through the life cycle: Definition of Recommended Dietary Allowances (RDA), Reference men and women; Nutritional requirements for different age groups such as infants, children, adolescent, adults and old age; The concepts of balanced diet, Basic five food group classification, food pyramid and exchange list for health living; Menu planning: Principles of meal planning and the factors influencing it.

Unit III

Introduction to community nutrition: Definition of community nutrition; the relationships between food and health; Prevalence of nutritional problems in the community: Malnutrition: Under and over – nutrition, causes, signs and symptoms, prevention and treatment; Vitamin A, Iodine and Iron deficiency: causes, signs and symptoms, prevention and treatment; Over-nutrition health problems: overweight and obesity related health risks.

Unit IV

Assessment of Nutrition status of the community: Nutritional status definition; Assessment methods: direct assessment such as anthropometry, biochemical method, clinical examination, diet survey, biophysical methods; Indirect methods: Food balance sheet, Agricultural data, ecological parameters and vital statistics – use of growth chart, merits and limitations of each method.

Unit V

National and International organization working for community health:

Need of nutrition and health education: Principles of planning, executing and evaluating, nutrition education programmes and problems in conducting health and nutrition education programmes. The role of National Organization in community health: National Nutritional Policy, supplementary feeding programmes, ICDS programmes, Tamil Nadu Integrated Nutrition Programme (TINP), Mid day meal programme Special Nutrition Programme, and NNMB; The role of International Organizations in community health: UNICEF, FAO and WHO.

References

1. Srilakshmi (2008). Nutrition Science. New Age International Pvt. Ltd, New Delhi.
2. Srilakshmi, B. 2005. Food Science, New Age International (P) Ltd., Publishers, New Delhi.
3. Mahan L K and Escott – Stump S (2000). Krause's Food Nutrition and Diet Therapy 10th Ed WB Saunders Ltd
4. Shills, M.E., Olson, J., Shike, M. and Roos, C. (1998): Modern Nutrition in Health and Disease. 9th Edition .Williams and Williams. A. Beverly Co. London.
5. Sree Devi.V. (1997). Nutrition Education. Discovery Publishing House, New Delhi.
6. Bamji, M.S., Rao, P.N. and Reddy, V. (1996). Textbook of Human Nutrition, Oxford & IBH Publishing Co. Pvt. Ltd.
7. Gopalan, C. (1995). Recent Trends in Nutrition, Oxford University Press, London.
8. Mudambi, R.S. and Rajagopal, M.Y. (1991). Fundamentals of Food and Nutrition. Wiley Eastern Limited, New Delhi.
9. Davidson, S.R. and Pasmore (1986). Human Nutrition and Dietetics. Church Hill Livingstone, New Delhi.
10. Swaminathan, M. (1985). Essentials of Food and Nutrition. Vol I and Vol. II, Ganesh and company, Madras.

Paper III: Behavioral Science and Communication

Unit I

Concepts in behavioral science: Prejudice, attitude, personality, traits, character. Attitude: concept and meaning of attitudes, factors affecting formation of attitudes, type of attitudes, characteristics of attitudes. Personality: determinants of personality, personality and behavior. Group dynamics: concepts and meanings, types of groups, determinants of group behavior, difference between groups and teams.

Unit II

Behavior science: Meaning, definitions, nature, scope and significance. Behavioral science and its relationship with various social sciences: Sociology, History, Anthropology, and Psychology. Socialization: meanings, types of socialization, stage of socialization, agencies of socialization, factors determining socialization. Methods of behavioral sciences. Non-verbal communication, Interpersonal relationships.

Unit III

Communication: Meaning, definitions, elements and significance. Need for communication - Evolution of Communication - Different milestones in communication, Variables of communication - Different forms of communication Verbal, Nonverbal, written communication. Level of communication - inter personal communication – communication and socialization. cultural transmission, dysfunctions of mass communication – communication and research.

Unit IV

Sociology of Communication: Symbolic interactionism: C.H. Cooley: Looking Glass Self, G.H. Mead: I, Me and Self. Problems in communication, Conversation Pattern, Social Interaction, Social Networks, Perspectives and social interaction: factors determining social interaction. Role of informal institution in social interaction: family, kinship, religion. Influence of formal institutions in social interaction. Legislation, governance, education and industry.

Unit V

Media and communication: definition, types of media: print media, electronic media and Mass media. Communication gap and its problems, factors responsible for communication gap. Culture of communication: social values, customs, traditions.

Reference:

1. Harlambas and Halborn (2011). Themes and Perspectives in Sociology. Rawat publication.
2. Shankar Rao. C.N (2005). Introduction to Sociology. Newmen publication.

Paper IV: Environmental Sanitation

Unit I

Ecology: meanings, definitions, and significances. Different eco systems existing in nature. Population and ecological imbalance: factors – man made factors. Public Health: activities of Government, Non-governmental organization and World Health Organization (WHO), Sanitation: requirements in construction of markets, Slaughter houses, theatres, swimming pools, institutional buildings.

Unit II

Diseases and Illness: Transmission of diseases through air, water, food and contact. Other sources: Insect vector and rodent control-Housefly, Mosquito and other carriers of diseases,. Preventable measures: cleanliness, quality of life, positive health behavior. Health hazards and control measures: housing keeping, proper food habits and housing facilities.

Unit III

Housing: characteristics of house: housing location, neighbourhood. Basic elements of good housing - ventilation and spacing, details of house plumbing and drainage. Industrial hygiene-sources of dust and gaseous pollutants in the industry occupation hazards, exposure tolerance level of protection measures and legal control.

Unit IV

Pollution: meanings, definitions and types of pollution. Levels of noise pollution, Hazards of noise pollution, Measures for noise reduction, control of noise pollution. Air pollution: indoor pollution and out-door pollution. Light pollution.

Unit V

Protective measures for environmental degradation: environmental monitoring, creating awareness on environmental protection, legal protection on environment. Chipko Movement, Mono lake case, love canal case, Kyoto Protocol.

References

1. Bakshi D. Sinha, P. S. K. (2001) Menon Environmental Sanitation Health and Panchayati Raj Rev. and enl. ed Edition. Concept publishing
2. Selendy (2011).Water and Sanitation Related Diseases and the Environment Challenges Interventions and Preventive Measures. Wiley Pub.
3. Murali Krishna. K. V. S. G. (2005).Environmental Sanitation. Reem Publications Pvt. Ltd.

Paper V: Public Health Administration

UNIT I

Historical and Contemporary Development of Public Health: Meaning, Definition, Nature and Scope, functions in India, Public Health- Before and After Independence. Ethics in Public Health Practice, Public Health Delivery System and Action, Social, Health and Environmental Factors and its impacts.

UNIT II

Framework in Public Health Administration and Practice: Human Resources Management, Leadership for Public Health, Public Health Data Acquisition, Financing the Public's Health, Health Care Reform, Health Care workforces.

UNIT III

Public Health Infrastructure: Essential Health Care Services and Implications, Future of the Public's Health, National and International Organizations' effort, Community responsibilities in Medicine and Public Health.

UNIT IV

Organizations of the Public Health Delivery System: Geographic Information Systems for Public Health, Using Information Systems for Public Health Administration, Governmental Public Health organizations – Central, State and District level. Assessment and Strategic Planning in Public Health, Performance Appraisal and Evolution and Public health, Measurement and Quality Improvement in Public Health.

UNIT V

Public Health Law: Meaning, definition and functions of public health law, Public Health in Constitutional design, Evaluation of Public Health Interventions, Community Based Prevention, Communication and Media Relations, Public Health Education and Health Promotion Legislative Relations, Health Policy, Alma Ata Declaration - Health for All by 2000 AD - success and failure.

Text Books:

1. Lloyd F. Novick, Cynthia B. Morrow, Glen P. Mays, 'Principles for Population based Management', Worldcat, Sudbury, Mass., Jones and Bartlett Publications., @ 2008.
2. Seal, S.C., 'Health Administration in India', Dawn Books., Calcutta 1975.
3. Ludek Fischer., 'Public Health Administration', New Haven, human Relations Area Files, 1972.
4. Geal, S.L., 'Public Health Administration', New Delhi, Sterling Publishers Private, 1984.

Practical

An enrolled student has to undergo a one month training at hospitals either in government or in private under the sanitary and health conditions which is prevailing there. He/ she to get the certificate from the administration which state that the training provided by them must be related to the title of the course: Health and Sanitation.

The enrolled student has to submit an original work done by him/her starting from introduction, review of literature, methodology and experience in the hospitals in the form of analysis and interpretation beside conclusion too. The report does not exit 8000 word to 10000 words. The report also should consist of certificates, declaration, content, acknowledgment and tables, diagrams, graphs (if any).

The field work components are mandatory for the enrolled students. For the report the students can get 100 marks the full length report should be submitted to the head of the Department of Sociology, before the last day of the examination conducted for the PG diploma and diploma for the health and sanitation.

QUESTION PAPER PATTERN:

THEORY

Duration : 3 Hours

Maximum Marks : 100

Part – A (5 x 5 = 25 Marks)

Answer any 5 Questions

(Eight Questions to be asked)

1, 2, 3,8.

Part – B (5 x 15 = 75 Marks)

Answer any 5 Questions

(Eight Questions to be asked)

1, 2, 3,8.