

DETAILED SYLLABUS FOR THE POST OF STATE NUTRITION OFFICER (Health Services)

(Cat.No. : 548/2022)

(Total Marks- 100)

MODULE I: KERALA-INDICATORS OF HEALTH AND NUTRITION (10 Marks)

Kerala- Topography, Demography, Epidemiology of diseases, Epidemiology study methods, Nutrition and Health statistics of India, Kerala- Mortality and, Morbidity Indicators, Indicators of Social and Mental health, Socio Economic Indicators, Indicators of Quality of life, Human Development indices, Hunger index, Sustainable Development Goals.

MODULE II: NUTRITION IN LIFE CYCLE (10 Marks)

Infancy, Childhood, Adolescence- EER, EAR, RDA, Nutrition and development, Growth Monitoring, Measuring, recording, and plotting growth, WHO; IAP standards, Regional growth charts, Z scores- infancy and childhood. Nutritional problems, eating disorders, first 1000 days of life, IYCN. **Pregnancy and lactating-** EER, EAR, RDA, Justify the reasons for increased nutritional needs, weight gain in pregnancy and physiological cost of pregnancy and lactation, Nutritional Complications of pregnancy, Breast feeding vs Bottle feeding, Weaning, BFHI, **Adulthood and Aged-** nutritional requirements, metabolic aspects of ageing, changes in body composition, nutritional and health status of elderly, Factors influencing food and nutrient intake, Nutritional concerns in the adult and aged.

MODULE III: NUTRITIONAL ASSESSMENT IN COMMUNITY SETTINGS (10 Marks)

Methods of nutritional assessment - ABCD technique for adults and children, Anthropometric measures, Biochemical parameters, Clinical examination, Dietary assessment – family diet survey, qualitative and quantitative diet surveys, institutional diet surveys, food balance sheet, chemical analysis, weighing method.

MODULE IV: MEDICAL NUTRITION THERAPY (10 Marks)

Hospital diets, Role of dietitian, Nutrition Care Process, Enteral and Parenteral nutrition, Pre and Post operative diet, Commercial supplement available in the market, Pathophysiology of diseases, MNT in diseases of -liver, gall bladder, GIT, Endocrine glands, Kidney, Immune system, Post transplant, Fevers, Food Allergies, Food borne diseases, Metabolic stress, Special diets for obesity- Keto diets, Atkins, Intermittent fasting, Low carbs, Paleo diet, Low calorie diet, Nutrition counselling and Patient Review.

MODULE V: FOOD SAFETY AND FOOD SECURITY (10 Marks)

Food Production and food availability in India, Improving food and nutrition security – Green, White, and Blue revolution. Significance of millets- International year of millets. Food security measures by government at National and State level, Nutritional strategies for the vulnerable population- tribal, coastal, hilly regions- common nutritional deficiencies, problems, Health policy and programs- Immunization, Health Screening, Health Regulations, National Family Health Surveys, Evaluation of Health Services.

MODULE VI: ADVANCED FOOD TECHNOLOGY (10 Marks)

Principles of Food Preservation. Recent techniques and advances in Food Preservation. Product development and packaging trends. Food safety laws- National and International Food enforcement bodies. Latest advances in food technology – cereals, pulses, oilseeds, fruits and vegetables, milk and milk products, meat, fish, eggs, and poultry. Indigenous food products of Kerala, post-harvest technology. Nutrigenetics, Nutrigenomics, Food Fortification, Food Spoilage, Food Adulteration.

MODULE VII: NUTRITIONAL BIOCHEMISTRY (10 Marks)

Scope and significance, Interrelationship between biochemistry and other biological sciences, Energy-human energy components, energy balance, energy determination, EER; Structure, classification, properties, digestion, absorption, transport, metabolism, synthesis, deficiency, and toxicity - Carbohydrates, Proteins, Lipids, Vitamins and Minerals. Role of Fibre and Water in the body. DNA, RNA, Enzymes. Instrumentation- Principle, methodology, application- Chromatography, Electrophoresis, Colorimetric, fluorimetry, spectrophotometry; flame photometry, Non-invasive techniques for assessment: X-ray, DEXA, - Advantages and Limitations

MODULE VIII: PUBLIC HEALTH NUTRITION (10 Marks)

Communicable diseases, Non-Communicable diseases (Obesity, Diabetes mellitus, Hypertension, Cancers, CVDs) Underweight, SAM, MAM, Common Nutritional deficiencies in the community, Social health issues- Tobacco, Smoking, Alcoholism, Drug abuse, AIDS, STDs. National and State Nutrition Policy, Strategies to combat public health issues in population- Health and Nutrition programs run at International, National and State levels. Health Planning and management, Health delivery system, Environment and Health, Communication for health education, Nutritional monitoring. Nutritional surveillance. Nutrition Education.

MODULE IX NUTRITION IN SPECIAL CONDITIONS (10 Marks)

Nutrition and Sports Performance, Nutritional ergogenic aids, Nutritional problems of sportspersons, Space nutrition, Food modifications for space travel, Nutrition during Disasters- natural and man-made, Disaster management, Nutrition at high altitudes.

MODULE X: RESEARCH IN NUTRITION (10 Marks)

Introduction to research - Meaning, objectives and significance. Research process, Selection of research problem, Hypothesis, Variables –types and characteristics. Limitations and delimitations. Research design, sampling techniques, methods and tools for research, Ethics in research. Relevant topics of nutrition research- Global, India, Kerala. Scientific writing-Research proposals, Reports, Journal articles

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper