

RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER
SYLLABUS FOR COMPETITIVE EXAMINATION FOR THE POST OF
ASSISTANT PROFESSOR IN - HOME SCIENCE (FOOD NUTRITION)
FOR COLLEGE EDUCATION DEPARTMENT

PAPER I

UNIT I - FOOD SCIENCE PROCESSING & TECHNOLOGY-

Properties of different foods and nutrients. Physical & chemical changes in foods during processing including cooking and preservation with special reference to sensory characteristics and nutritional value. Effect of acid and alkali on foods. Traditional methods of food processing- steaming, parboiling, germination- malting, fermentation, supplementation and their nutritional advantages. Newer methods of processing- enrichment, fortification, extrusion cooking, freezing, thermal, dehydration, vacuum drying and their nutritional advantages. Food additives, enzymes and pigments. Food labeling and packaging. Product development and significance of value-added products. Antinutritional factors in foods, their harmful effects on health and methods of eliminating them. Food Waste management.

Food Quality Assessment: sensory quality, microbial quality, nutritional quality. Food adulteration: definition, types, adulterants, food laws and standards.

UNIT II - NUTRITIONAL BIOCHEMISTRY-

Chemical structures and metabolism of carbohydrates, protein and fat. Biochemical roles of vitamins and minerals. Structure, synthesis, biochemical role of nucleic acid, enzymes, hormones. Biological oxidation, water balance, acid- base balance, buffers.

Techniques for analyzing nutrients such as colorimetry, titrimetric, spectrophotometry and chromatography. Principles and methods of estimating macro and micro nutrients in food and their metabolites in blood.

UNIT III- FOOD MICROBIOLOGY-

Micro-organisms of importance in food and water: bacteria, mould and yeast- classification, morphology and physiology. Factors affecting growth of micro-organisms.

Food spoilage. General principles of food preservation and techniques for; asepsis, removal of micro- organisms, anaerobic conditions, dehydration, use of low temperatures, use of high temperatures, irradiation, Overview of gut environment, probiotics and prebiotic.

Quality assurance, HACCP, GMP, GHP.

Hygiene and sanitation: Food and water.

UNIT IV- HUMAN PHYSIOLOGY-

Cell structure and functions. Physiology of cardiovascular system, blood, digestive system, endocrine system, respiratory system, excretory system, musculo-skeletal system, nervous system. Regulation of body temperature.

UNIT V - INSTITUTIONAL FOOD SERVICE MANAGEMENT-

Management and organization of food services in different institutions such as canteen, cafeteria, hostel, hotel and hospital. Management of finance, energy and time, food, manpower, plant and equipments in quantity food production, food service and delivery systems. Consumer behaviour and eating trends. Food service's facility planning. Food Management: Menu planning in food service organisation, types of menu and their application, quality control, food purchasing, food production, food cost control.

Note :- Pattern of Question Paper

- 1. Objective type paper**
- 2. Maximum Marks : 75**
- 3. Number of Questions : 150**
- 4. Duration of Paper : Three Hours**
- 5. All questions carry equal marks.**
- 6. Medium of Competitive Exam: Bilingual in English and Hindi**
- 7. There will be Negative Marking.**