

Syllabus for Food Safety Officer Examination

Sr. No.	Subject	Total Marks	Time Duration	Exam Type
1	General Studies & Mental Ability	25	2 Hours	Objective Type
2	Chemistry and Food Nutrition:- A) Food chemistry B) Food Microbiology C) Food Processing Technology	75		

PAPER-1 (GENERAL STUDIES AND MENTAL ABILITY)

1. Events of national and international importance.
2. Current affairs-international, national and regional.
3. General Science and its applications to the day to day life contemporary development in Science & Technology and information Technology.
4. Social-economic and political history of modern India.
5. Indian polity and governance: constitutional issues, public, reforms and e-government initiatives.
6. Economic development in India since independence.
7. Physical geography of Indian sub-continent and Bihar.
8. Disaster management: vulnerability profile, prevention and mitigation strategies, Application of Remote Sensing and GIS in the Assessment of Disaster.
9. sustainable Development and Environmental Protection.
10. Logical reasoning, analytical ability and data interpretation.
11. Data Analysis:
 - (a) Data Analysis
 - (b) Tabulation of data
 - (c) Basic data analysis (summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation.

PAPER-2 (Chemistry and Food Nutrition)

1. Food Chemistry

Carbohydrates - Structure and functional properties of mono, di&oligo-polysaccharides including starch, cellulose, pectic substances and dietary fibre; proteins - Classification and structure of proteins food. Lipids - Classification and structure of lipids, Rancidity of fats, Polymerization and polymorphism; pigments- Carotenoids, chlorophylls, anthocyanins, tannins and myoglobin; Food flavours - Terpenes, esters, ketones and quinones; Enzymes Enzymatic and non-enzymatic browning in different foods.

2. Food Microbiology

Characteristics of microorganisms- Morphology, structure and detection of bacteria, yeast and mold in food, Spores and vegetative cells; microbial growth in food-18 intrinsic and extrinsic factors, Growth and death kinetics, serial dilution method for quantification; Food spoilage-Contributing factors, Spoilage bacteria, Microbial spoilage of milk and milk products, meat and meat product; Food borne disease-Toxins produced by Staphylococcus, Clostridium and Aspergillus; Bacterial pathogens-Salmonella, Bacillus, Listeria, Escherichia coli, shigella Campylobacter;

Food Hazards of natural origin - sea food toxins, biogenic amines, alkaloids phenolic compounds, protease inhibitors and phytates. Type of hazards, biological, chemical, physical hazards factors affecting safety, importance of safe foods.

General methods of food preservation and food processing preservation of food spoilage.

3. Food processing technology

Food processing - structure, composition, nutritional significance and type of processing methods for various categories of foods : Cereals (Rice-milling), parboiling, Barely-Pearling, malting, brewing, Corn-wet and dry milling, Wheat-milling, pulses (Milling, germination, cooking, roasting, frying, canning and fermentation) and oil seeds (extraction and refining), Fruits & IQF, thawing and plantation crops (primary and secondary processing of Tea, Coffee and Cocoa), Spices (Oleoresin and essential oil extraction), Meat fish and poultry (ante mortem inspection, slaughtering and deressing post mortem examination, canning curing, smoking freezing dehydration), milk (receiving, separation, clarification, pasteurization, standardization, homogenization, sterilization UHT).

Unit operations of food processing - grading sorting, sorting, peeling and size reduction. product development- consumer trends and their impact on new product development: stage-to conceive ideas, evaluation of ideas, evaluation of ideas, developing ideas into products, test marketing and commercialization: criteria for selection of raw materials, sensory evaluation, objective evaluation standardization.