

## MPPSC Food Safety Officer Syllabus 2025

### UNIT-I :

1. Phenols
2. Aldehydes
3. Ketones
4. Carboxylic acids
5. Nitro compounds and amines
6. Chemical bonds and forces
7. Concept of pH and buffer
8. Thermochemistry
9. Chemical equilibrium
10. Different methods of purification
11. Qualitative and quantitative analysis
12. Solutions-concentration terms
13. Liquid-properties surface tension
14. Viscosity and its applications
15. Chemical kinetics
16. Aliphatic and Aromatic hydrocarbons-concept of aromaticity
17. Methods of preparation and chemical properties of alcohols
18. Surface chemistry-adsorption homogeneous and heterogeneous catalysis colloids and suspension\

### UNIT-II :

1. Some important food spoilage microorganisms
2. Fermentation-definition and types
3. Microorganisms used in food fermentation
4. Dairy fermentation
5. Fermented foods-types
6. Methods of manufacture for vinegar
7. Sauerkraut
8. Soya sauce
9. Types of microorganism associated with food their morphology and structure
10. Factors affecting their growth
11. Microbiological standards
12. Sources of microorganisms in food
13. Beer
14. Wine and traditional Indian foods

### UNIT-III:

1. Metabolism and calorific value
2. Enzymes-classification
3. Kinetics factors controlling enzyme activities
4. Enzymes used during food processing
5. Modification of food by endogenous enzymes
6. Vitamins and their types
7. Biomolecules – carbohydrates
8. Proteins
9. Lipids and nucleic acids
10. Their classification
11. Structure
12. Biosynthesis
13. Minerals-important minerals and their functions in the human body
14. Plant alkaloids and their uses
15. Animal and plant toxins
16. Toxic substances and their metabolism-pesticides
17. Metals food additives

### UNIT-IV :

1. Respiration-respiratory pigment transport and gaseous exchange
2. Excretion-structure of kidney and urine formation
3. Circulatory system-Heart Blood vascular system blood and its components
4. Nervous system conduction of impulses
5. Muscular system types of muscles and muscle contraction
6. Reproductive system Endocrine system hormones and their role
7. Classification-five kingdom system up to phylum plants and animal products used as food by a human
8. Culture of animals used as a food
9. Eukaryotic and Prokaryotic cells
10. Types of cells animal tissues and organs
11. Human physiology-Nutrition and Digestion
12. Immune system-types of immunity antigen-antibody reaction
13. Diseases-deficiency diseases communicable diseases and diseases caused by animals (protozoan's helminths arthropods)

### UNIT – V :

1. Environmental bio technology-pollutants
2. Standard deviation
3. Regression and correlation
4. T-test variance
5. Biomagnification and microbial bioremediation
6. Statistical analysis-mean
7. Genetically modified plants and animals
8. Plant and animal tissue culture and its application
9. Importance of GM-crops and their products
10. Median
11. Mode

#### **UNIT-VI:**

1. Horticultural crops (Citrus, Mango, Guava, Ber, Onion, Tomato, Cucurbits, Chilli, Rose, etc.)
2. Spices and Medicinal crops Cumin, Fenugreek, Fennel, Coriander, Isabgol, Aloe vera
3. Salient features of agriculture with special reference to Rajasthan
4. Soil Fertility and Management of Problematic Soils in Rajasthan
5. Introduction to Dryland Farming and Agro-forestry
6. Introductory knowledge about Production Techniques of important field crops (Wheat, Mustard
7. Groundnut, Pulses, Bajra, and Maize)
8. Important diseases and Pests of major Crops and their Management
9. Importance of agriculture marketing
10. General awareness about Seed science and Crop Physiology

#### **UNIT-VII:**

1. Laboratory diagnostics
2. Important diseases of livestock and their management
3. Present status of Milk and Milk Products
4. Milk production and quality of milk
5. Importance of Livestock in Economy of Rajasthan
6. Fundamentals of Livestock and Poultry Production
7. Artificial insemination and pregnant animal management
8. Milk processing and packaging
9. Dairy equipment and utility Introduction to livestock products

#### **UNIT-VIII:**

1. Postharvest Physiology and handling of fruits and vegetables
2. Types and functions of Packaging materials used in fresh and processed food
3. Food laws -a brief review of regulatory status in India (FPO Prevention of Food adulteration Act Food
4. Safety and Standard Act Testing Food for its Safety AGMARK)
5. Present status of Food Technology in India and Rajasthan
6. General methods of food preservation and food processing
7. Importance of Postharvest technology of fruits and vegetables
8. Technology for processed products like Squash Jelly Sauce Pickles
9. Hygiene and Sanitation HACCP Good Manufacturing Practices Good Laboratory Practices

#### **UNIT-IX:**

1. The emergence of Modern MP: factors of Socio-Political awakening of 19th century
2. Peasants and tribal movements of 20th century
3. Pre & Early history of MP
4. Age of Raj put Major dynasties of MP and the achievements of prominent rulers
5. The political struggle of the 20th century and the integration of Rajasthan

#### **UNIT-X:**

1. Performing Art of MP -Folk music and musical instruments of MP
2. Visual Art of MP-Architecture of forts and temples of MP
3. Sculpture traditions of MP and various schools of painting of MP
4. Folk dance and folk drama of MP

#### **UNIT-XI:**

1. Various religious cults
2. Saints and folk deities of MP
3. Various dialects and their distribution in MP literature of the MP language

#### **UNIT-XII:**

1. Droughts & Floods
2. Deforestation
3. Environmental Pollution and Ecological Concerns
4. Climate and Agro-climatic regions
5. Major soil types and distribution
6. Major forest types and distribution
7. Broad physical features-Mountains
8. Plateaus Plains & Desert
9. Major rivers and lakes
10. Demographic characteristics
11. Desertification

#### **UNIT-XIII:**

1. Major agro-based industries-Textile Sugar Paper & Vegetable oil
2. Poverty and Unemployment
3. Agro-food parks
4. Major Minerals-Metallic & Non-Metallic
5. Power Resources-Renewable and Non-Renewable

#### **UNIT-XIV:**

1. National and International events of importance
2. National and International Organisations- (BIS ICMR ICAR Council for Social Welfare APEDA Export inspection Council FAO WHO ISO WTO)
3. Important Persons
4. Places and Current events of the State