J.S.UNIVERITY,SHIKOHABAD,FIROZABAD,U.P

Department: Pharmacy

Value Added Course

Food Processing and Preservation

(VAC-103)

DURATION OF COURSE: 30 HOURS

TIME: 3 HOURS IN A WEEK

Unit-1

Food Processing- An Overview Cereals, Millets and Pseudo cereals Nutritive value, Composition.

Structure of Cereals-an overview. -Post Harvest Processing and Technological Aspects of Cereals - Milling and Processing of Cereals for Value Added Products (Puffs, Flakes, Extruded products, Pasta, Bakery items) -Quality and Grading of Grains -Recent Advances in Milling of Rice, Wheat and Millets -Flour Fortification to Improve Nutritive Value - Specialty Corn for Value Addition - Malting Technology- An Overview Breakfast Cereals- An Overview Pulses and Legumes -Nutritive value and Composition of Pulses and Legumes-An overview. Milling and Processing of Pulses for Value Added Products -Germination. Decortication and Splitting of pulses and legumes Elimination of Toxic Factors Fermented and Non-Fermented Soy Products.

Unit-II

Fruits and Vegetables- Nutritive value. Composition and Classification of fruits and vegetables-An overview.

-Post Harvest Management Techniques, Processing and Preservation of Fruits of Himalayan Regions, Temperate Fruits and Tropical Fruits -Controlled Atmosphere Storage of Perishables Packaging Requirements, Methods of Packaging and Quality Aspects of Minimally Processed Fruits and Vegetables Modified Atmosphere Packaging of Fruits and Vegetables -Frozen, Canned, Dry Storage of Fruits and Vegetables Ohmic Processing of Foods. Extrusion Technology. High Pressure Technology. Ozonation, Dehydration and Sun Drying -Effect of Gamma Radiation on Physio-chemical and Sensory Qualities of Fruits and vegetables Innovative Techniques in Minimal Processing of Fruits and Vegetables. -Value Added Products (Jams, Jellies, Marmalades, Preserves. Purees, Powders, Drinks, Squash, Fruit Wine).

Unit-III

Meat, Poultry and Eggs- Classification, Nutritive Value and Composition, Meat, Meat industries.

In India -Slaughtering technique of animal and slaughtering practices -Meat cuts and portions of meat. -Post mortem changes in meat (Rigor Mortis) -Color of meat -Meat processing- Smoking and Curing. Prepared meat products including fermented meats, sausages, bacon, salami, kebabs.

Frozen meat and meat storage -Packaging of meat products. -Meat microbiology and safety - Meat plant hygiene - GMP and HACCP-By-products from meat industries and their utilization Poultry -Processing of poultry meat and eggs. -Spoilage and control. -By-product utilization - Value Added Products (Frozen chicken, dehydrated powders. Salami, Sausages) Eggs -Egg Types, Composition -Quality check and grading of eggs-Value added products (Frozen eggs, canned egg whites/yolks. pasteurized egg products.

Unit-IV

Seafood

Fish processing industries in India. -Classification of fresh water fish and marine seafood Commercial handling, storage and transport of raw seafood. -Average composition of seafood. - Freshness criteria and quality assessment of fish and seafood -Spoilage of fish and seafood. - Methods of processing and preservation of fish-Canning. Freezing, Drying. Smoking and Curing. - Value Added Seafood products -fish meal, fish protein concentrate, fish liver oil, fish sauce and surimi -Seaweed. Algal products.

UNIT - V

Milk and Milk Products- Pasteurization, Homogenization and Standardization - Manufacture of condensed.

Milk, milk powder, cheese, ice-cream.cream, butter, ghee, Khoa. Curd, Paneer. Lactone, malted and flavored beverages. lactose, evaporated and dried products, their evaluation and quality parameters. defects encountered during production, packaging and storage. Substitutes for milk and milk products. - Casein and caseinates, lactose, whey protein concentrates and isolates, milk coprecipitates, and other by -products. -Technology of baby foods, weaning foods, therapeutic foods. Fortification and enrichment. Probiotic milk product -Lactose free Milk Products -TQM in Food Industry. Technology of milk and dairy products.

Reference Books:

1. Khetarpaul N (2010) Emerging Trends in Post-Harvest Processing and Utilization of Plant Foods. ATPA
2. PJ Fellows (2009) Food Processing Technology: Principle

Name & Sign. of Subject Teacher

Mr. Rikesh Kumar

Dean

Dr. Ajeet Singh

Dean Academ
Dr. Akhilesh