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**SYLLABUS FOR THE POST OF "KHADYA PRASANSKARAN
SHAKHA VARG-3 PARYAVEKSHAK (CANNING) AND "KHADYA
PRASANSKARAN SHAKHA VARG-3 (PARYAVEKSHAK PAAK KALA/
COOKERY)"**

PART-A

(Compulsory)

UNIT-1 Basic Science

- Elements & compounds symbol form valencies & equations.
- Physical & Chemical changes.
- Acid, Base & Salts.
- Oxidation & Reduction.
- Different sources of water & its types.
- Hardness of water- uses & effects.
- Electrolysis, pH & Hydrogenation, Rancidity.
- Heat- convection, conduction & radiation.
- Principles of Evaporation & Refrigeration.
- Thermal factor in Food Processing.

UNIT-2 Introduction to Food Science

- Functions of food.
- Elementary knowledge of food constituents (Food groups, food nutrients).
- Food in relation to health.
- Pigments in fruits & vegetables.
- Food enzymes effect on food.
- Fermented & unfermented products.
- Enzymatic & non-enzymatic browning.
- Food additives.
- Food adulteration.
- Food laws & standards.

UNIT-3 Microbiology Sanitation & Quality Control

- Classification of plant & animal kingdom.
- Elementary knowledge of Mold, yeast & Bacteria.
- Food Contamination- sources, spoilage & control.
- Principles of Fermentation- ref. to sugar and alcohol.
- Food Poisoning- causes & control.
- Role of sanitation in quality control.
- Effective cleaning practices & operation.
- Personal Hygiene Standards.
- Insects & Pest control.
- Quality control evaluation methods.

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PART-B

(Only For Cookery)

UNIT-1 Introduction to Cookery

- Definition of Cooking.
- Aims & objectives of cooking food.
- Kitchen tools and equipments.
- Care and maintenance of equipments.
- Cookery terms.
- Bakery terms.
- Texture of food.
- Classification of raw materials.
- Kitchen Hygiene.
- Kitchen organization.

UNIT-2 Basic commodities

- Spices and Herbs.
- Cereals and pulses.
- Dairy products.
- Fats and Oils.
- Sugar and Sugar products.
- Raising Agents.
- Cheese cookery.
- Food flavours.
- Vegetables and fruits.
- Cuts of vegetables.

UNIT-3 Methods of Cooking

- Need for cooking
- Adverse effects of cooking.
- Fat medium.
- Moist medium.
- Dry medium.
- Meat cookery.
- Fish cookery.
- Egg cookery.
- Storage (raw & cooked)

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UNIT-4 Basic Sauces, Soup and stocks

- Classification of Sauces.
- Derivatives of mother sauces.
- Definition and classification of soups.
- Definition of stocks.
- Types of stocks and preparation.
- Elements of stocks.
- Accompaniments.
- Garnishes.
- Thickening agents.
- Emulsification.

UNIT-5 Basic Bakery

- Principles of Baking.
- Uses of different types of ovens.
- Principles of Bread making.
- Role of Ingredients in Baking (Yeast, salt, sugar, milk, flour).
- Bread making methods.
- Cake making methods.
- Pastries classification.
- Pastries faults.
- Icing.

UNIT-6 Larder

- Functions of larder department.
- Use and care of equipment.
- Salad and salad dressing.
- Sandwiches.
- Cold kitchen preparation.
- Classification of salads.
- Parts of salad.

UNIT-7 Indian Cuisine

- Gravies and masalas.
- Indian breads.
- Indian sweets.
- Rice preparation.
- Snacks.
- Tandoor.
- Dum cooking.
- Kebabs.

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PART-C

(Only For Canning)

UNIT-1 Canning

- Definition of canning.
- Requirements for establishing canning plant.
- Steps involved in canning of fruits/vegetables.
- Effect of altitude on processing time.
- Effect of altitude on processing pressure and temperature.
- Effect of acidity on sterilization.
- Effect of processing on strain in the can.
- Processing methods of fruits and acid vegetables.
- Processing methods of non-acid vegetables.

UNIT-2 Containers

- Types of containers used in processing industries.
- Types of Lacquering.
- Compositions of the tin plate used for canning.
- Size of A can & Weight of tin plate.
- Size of 12 oz. Butter can and its weight of tin plates.
- Size of 1 lb. (Pound) Butter can and its weight of tin plates.
- Size of 1 lb. (Pound) Jam can and its weight of tin plates.
- Types of can used for canning of the black berries.
- Types of can used for canning of the Apple
- Types of can used for canning of the Spinach.

UNIT-3 Fruit juices, Squashes and Cordials

- Fruits suitable for juices, squashes and cordials.
- Difference between squash and cordials.
- Minimum requirement for preparation of any fruit squash such as- Juice % and TSS as per FPO (fssai).
- Preservative for Jamun or Rhododendron squash.
- Steps involved in preparation of any fruit squash.
- Difference between squash and synthetic syrup (Sharbat).
- Types of fruit beverages.
- Definition of Fining agents.
- Pasteurization.
- Preservation by carbonation.

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UNIT-4 Jams/Jellies and Marmalades

- Definition of jam/jelly/marmalade.
- Fruits suitable for preparing Jams/Jellies/Marmalades.
- Difference between; (a) Jam & Jelly, (b) Jelly & Marmalade.
- Method of preparation of any fruit Jam.
- Method of preparation of any fruit Jelly.
- Method of preparation of any fruit Marmalade.
- Definition of Pectin.
- Grades of pectin and its role in jelly preparation.
- Theory of jelly preparation.
- Difficulties in jelly making and their solutions.

UNIT-5 Preserves, Candies & Crystalized fruits

- Definition of preserve.
- Define candies and crystalized fruits.
- Fruits/vegetables suitable for preserve/candies/crystalized fruits preparation.
- Methods of preparation of preserves.
- Methods of preparation of candies.
- Role of Osmosis in preparation of preserves.
- Difference between preserve and candies.
- Minimum strength (TSS) of sugar syrup in preserve.
- Difference between candied, glazed and crystalized fruits.
- Cause of spoilage of preserves and candies.

UNIT-6 Tomato products/ sauces/chutneys/Pickles

- Different types of tomato products.
- Different fruits and vegetables used for preparation of vegetable sauces.
- Method of preparation of tomato sauce/ketchup.
- Difference between tomato sauce and vegetable sauce.
- Definition of chutney.
- Fruits/vegetables used in the preparation of chutneys.
- Method of preparation of any chutney.
- Kinds of pickle.
- Different kind of spoilage occur in pickles.

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UNIT-7 Drying & Dehydration/ Vinegar/ Nutraceuticals from fruits and vegetables

- Definition of drying.
- Difference between Sun drying and mechanical dehydration.
- Methods of sun drying of the grapes.
- Mechanical dehydration of the apple.
- Processes for vegetable drying and dehydration.
- Freeze drying.
- Definition of Vinegar.
- Definition of spirit vinegar.
- Grain strength of vinegar
- Different major nutraceuticals from fruits and vegetables.

Note: Current general knowledge of scientific advancements in all the above units is deemed to have been included.

Prof. J. S. Jadhav

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