



## **Syllabus: Kitchen and Chemistry**

**Contents:** Sense of taste and smell, Chemical reactions in cooking, Maillard reactions. Foams, bread recipe, leavening alternatives. Protein Chemistry: Amino acids, Denaturing proteins, milk, egg, meat, enzymes, glutamate and cheese. Emulsions: Emulsifying agents, Gum stabilizers. Colloids, Gel and suspensions- Starches, Agar and agarose, pectin and protein gels. Oils and Fats: Saturated fats, Monosaturated fats, polysaturated fats, Omega-3 and Omega-6 fats, trans fats. Solutions: Syrups and broth, candy and liquors. Heating: Browning reactions, Protein denaturing, volume reducing and drying, flavour producing, carcinogens, colour changes, nutrition changes and leavening. Cooking with acids and cooking with bases. Oxidation and Reduction: Apples, Avacados and lemon juice, Vinegar from wine, antioxidants. Boiling and Freezing: Raising the boiling point, Pressure cookers; Lowering the freezing point, making ice cream. Chemistry of yeast, yogurt, buttermilk, wine and beer. Cooking utensils: Methods and gadgets