Glossary:

- 1. **Browning:** Browning of foods is defined as the process in which there is a change in the color of the food due to a chemical process. Two types of browning reactions that occur in foods are enzymatic browning and non-enzymatic browning.
- 2. **Enzymatic browning:** Enzymatic browning of fruits and vegetables is defined as a process in which, in the presence of oxygen; enzymes such as phenolase oxidize phenols to orthoquinones which rapidly polymerize to form undesirable brown or black pigments such as melanins.
- 3. **Phenolase:** Phenolase include a group of enzymes such as phenoloxidase, cresolase, dopa oxidase, catecholase, polyphenoloxidase, potato oxidase, laccase, tyrosinase, sweet potato oxidase, grape peroxidase, and phenolase complex of which polyphenol oxidases are studied extensively for browning of fruits and vegetables.
- 4. Melanins: Melanins are pigments formed due to rapid polymerization of orthoquinones
- 5. Plastids: It is a cellular compartment comprising of enzymes responsible for browning
- 6. **PPO:** PPOs generally an abbreviation used for Polyphenol oxidase is an enzyme extensively studied for causing browning reactions in fruits and vegetables.
- 7. **Blanching:** It is a process in which fruits and vegetables are immersed or plunged in boiling water for a brief time interval and finally plunged into cold water to stop the cooking process. It is useful in inactivating surface micro-organisms, browning reactions and to remove raw flavor.
- 8. **Ohmic heating:** It is process of raising the temperature of foods by passing an electric current. A low frequency alternating of 50-60 Hz current is passed through a conducting solution such as salt brine with special electrodes to heat the food followed by cooling.
- 9. Microwave heating: This method of heating makes use of microwave energy. Microwaves are electromagnetic waves with a wavelength of 0.025-0.75m with frequencies 2450 MHz and 915 MHz for food applications. Higher the degree of penetration of microwaves into an absorbing material, greater is the heat produced.
- 10. **HHP or High hydrostatic pressure:** In this method, fruits and vegetables are packed in flexible pouches, immersed in water and subjected to high atmospheric pressures to inactivate micro-organisms and enzymes.

- 11. **Chelating agents:** Chelating agents are chemical compounds that form complexes with metal ions or substrates.
- 12. **Pulsed Electric field:** It is a non-thermal method of food preservation that uses short pulses of electricity for microbial and enzyme inactivation and causes minimal detrimental effect on food quality attributes.
- 13. **Super critical carbon-di-oxide:** It is a fluid state of <u>carbon dioxide</u> where it is held at or above its <u>critical temperature</u> and <u>critical pressure</u>.
- 14. **Coating agents:** Coating agents in foods act as barriers against moisture loss, they create an anaerobic condition in the internal fruit or vegetable atmosphere and reduce surface abrasion during handling.
- 15. Food irradiation: The term food irradiation refers to the processing of food with limited number of ionizing radiation such as α , β or γ rays without the generation of significant heat. Hence, it is also referred as cold sterilization.