VML-102 Basic Concepts of Lab Technology-I

Objective - Student will learn about the basic lab procedures and care and maintenance of lab equipment

UNIT - 1 **Basic principles and procedures of Laboratory:** Introduction to laboratory safety principles, Preventive measures, laboratory hazards, measuring and dispensing liquid, safety precautions with glass and plastic containers, selection of container, procedure of hand hygiene, to be equipped with techniques of use of PPE.

UNIT - 2 **Glassware and Equipment in Laboratory:**

Introduction to Glassware: glassware, types of glassware (for example, beaker, jars, flasks, test-tubes, Petri dishes, microscope slides, graduated cylinders, graduated pipette, stirring rods etc.) cleaning methods, storage of glassware and glass apparatus.

Introduction to Lab Equipment: types of different laboratory equipment's and instrument (examples are balance, Bunsen burner, funnel, pipette bulb, autoclave, centrifuge, laminar air flow, hot air oven, incubator, water bath, cell counter, microscope etc.), handling, care and maintenance of equipment.

UNIT - 3 **Introduction to different laboratory reagents, solutions and stains:** Introduction to Solution: Concentration of solutions, Types of chemicals (Corrosive, Flammable, toxic, carcinogenic etc.), Types of Reagents (for example, carbol fuchsin, gram's stain, giemsa, Leishman, saffranine), preparation of reagents (for example hypochlorite, ethanol, formaldehyde etc.), Safety measures for handling chemicals & reagents.

UNIT - 4 **Infection control and prevention:** Understand practices to curb infection, hospital borne infection, prevention and treatment of needle stick injury, understand the management of blood and body substance spillage in the health care setting.

Recommended Books:

- **[**P.B Godkar, Henry's clinical diagnosis and management by laboratory methods]