

**UNIT – I**

Preformulation Studies : pKa and solubility partition coefficient, crystal morphology, polymorphism, powder flow, structure characteristics, dissolution, compatibility studies, protocol for pre-formulation studies.

**UNIT – II**

Drug Stability : Solution stability, solid state stability, parameters for physical stability, protocol for physical stability testing, accelerated stability studies and shelf assignment.

**UNIT – III**

Formulation, stabilization and evaluation of tablets, capsules, parenteral dosage forms. Advances in pharmaceutical packaging.

**UNIT – IV**

Cosmetics:

Formulation and evaluation of:

    Skin care products such as antiageing and sunscreen products.

    Hair care products such as shampoos, hair dyes and hair tonics.

Safety testing of Cosmetic Products:

    Microbiology in Cosmetics.

    Knowledge of the various microbial contaminants in cosmetic products.

    Knowledge of various preservative systems for cosmetic products.

    Selection criteria for preservatives.

    Efficacy and safety testing of preservatives in cosmetic products.