

SABBHAVNA COLLEGE OF MANAGEMENT & TECHNOLOGY VILLAGE JALALDIWAL, RAIKOT , LUDHIANA (PB)

Subject Name - Pharmaceutics -I

Subject Code-1991

1. Introduction of different dosage forms. Their classification with their examples - their relative applications. Familiarization with new drug delivery systems.
2. Introduction to Pharmacopoeias with special reference to Indian Pharmacopoeia.
3. Metrology:
Systems of weights and measures. Calculations including conversion from one system to another system, Percentage calculations and adjustments of products. Use of alligation method in calculations. Isotonic solutions.
4. Packaging of Pharmaceuticals :
Desirable features of a container-types of containers. Study of glass and plastics as materials for containers and rubber as a material for closures - their merits and demerits. Introduction to aerosol packaging.
5. Size reduction objective, and factors affecting size reduction, methods of size reduction - Study of hammer mill, ball mill, Fluid Energy Mill and disintegrator.
6. Size separation-size separation by shifting. Official standards for powders. Sedimentation methods of size separation. Construction and working of Cyclone separator.
7. Mixing and Homogenization - Liquid mixing and powder mixing, Mixing of semisolids. Study of Silverson Mixer Homo-geniser, Planetary Mixer, Agitated Powder Mixer; Triple Roller Mill; Propellor mixer, Colloid mill and Homogeniser. Double cone mixer.
8. Clarification and Filtration - Theory of filtration, Filter media; Filter aids and selection of filters. Study of the following filtration equipments - Filter press, Sintered Filters Filters candles, Metafilter.
9. Extraction and Galenicals -
 - a. Study of percolation and maceration and their modifications, continuous hot extraction - Application in the preparation of tinctures and extracts.
 - b. Introduction to Ayurvedic dosage forms
10. Heat processes - Evaporation - Definition - factors affecting evaporation - Study of evaporating still and evaporating pan.
11. Distillation - Simple distillation and fractional distillation, steam distillation and vacuum distillation. Study of vacuum still, preparation of Purified water I.P. Construction and working of the still used for the same.
12. Introduction to drying processes - Study of Tray Dryers, Fluidized Bed Dryer, vacuum Dryer and Freeze Dryer.
13. Sterilization - Concept of sterilization and its difference from disinfections - Thermal resistance of microorganisms. Detailed study of the following sterilization processes.
 1. Sterilizations with moist heat
 2. Dry heat sterilization
 3. Sterilization by radiation
 4. Sterilization filters
 5. Gaseous sterilizations

Aseptic techniques - Application of sterilization processes in hospitals particularly with reference to surgical dressings and intravenous fluids. Precaution for safe and effective handling of sterilization equipment.

14. Processing of Tablets - Definition, Different types of compressed tablets and their properties. Processes involved in the production of tablets, Tablets excipients, Defects in tablets, Evaluation of Tablets, Physical standards including Disintegration and Dissolution. Tablets coating sugar coating; film coating, enteric coating and microencapsulation (Tablet coating may be dealt in an elementary manner).
15. Processing of capsules - Hard and soft gelatin capsules; different sizes of capsules; filling of capsules; handling and storage of capsules. Special application of capsules.
16. Study of immunological products like sera, vaccines, toxoids and their preparations.

