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Syllabus

Pharmaceutics – Theory Course Code: ER20-11T

Chapter	Topics	Hours
1	 History of the profession of Pharmacy in India in relation to Pharmacy education, industry, pharmacy practice, and various professional associations. Pharmacy as a career Pharmacopoeia: Introduction to IP, BP, USP, NF and Extra Pharmacopoeia. Salient features of Indian Pharmacopoeia 	7
2	Packaging materials: Types, selection criteria, advan- tages and disadvantages of glass, plastic, metal, rubber as packaging materials	5
3	Pharmaceutical aids: Organoleptic (Colouring, flavour- ing, and sweetening) agents Preservatives: Definition, types with examples and uses	3
4	Unit operations: Definition, objectives/applications, principles, construction, and workings of: Size reduction: hammer mill and ball mill Size separation: Classification of powders according to IP, Cyclone separator, Sieves and standards of sieves Mixing: Double cone blender, Turbine mixer, Triple roller mill and Silverson mixer homogenizer Filtration: Theory of filtration, membrane filter and sintered glass filter Drying: working of fluidized bed dryer and process of freeze drying Extraction: Definition, Classification, method, and applications	9
5	Tablets: Coated and uncoated, various modified tablets (sustained release, extended-release, fast dissolving, multi-layered, etc.)	8
	Capsules: Hard and soft gelatine capsules	4
	Liquid oral preparations: Solution, syrup, elixir, emulsion, suspension, dry powder for reconstitution	6
	Topical preparations: Ointments, creams, pastes, gels, liniments and lotions, suppositories, and pessaries	8

Contd...

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Chapter	Topics	Hours
	Nasal preparations, Ear preparations	2
	Powders and granules: Insufflations, dusting powders, effervescent powders, and effervescent granules	3
	Sterile formulations: Injectables, eye drops and eye ointments	6
	Immunological products: Sera, vaccines, toxoids, and their manufacturing methods.	4
6	Basic structure, layout, sections, and activities of pharmaceutical manufacturing plants Quality control and quality assurance: Definition and concepts of quality control and quality assurance, current good manufacturing practice (cGMP), Introduction to the concept of calibration and validation	5
7	Novel drug delivery systems: Introduction, Classification with examples, advantages, and challenges	5