Examination topics/sub-topics in the technology of pharmaceutical dosage forms for students of the Bachelor of Pharmacy program

2022/2023 academic year

1.	Powders, Characterization, classification, technology.
2.	Powders. Simple, divided, and undivided powders. Preparation of compound powder with equal, almost equal and different amounts of substances. Quality characterization of powders.
3.	Preparation technology of compound powders with potent, narcotic substances by trituration method. Powders with thick, dry extract and liquid substances. Determination of quality characteristics.
4.	The technology of compound powders with dyer and colored substances. Determination of quality characteristics.
5.	Technology of difficult dispergable, smelly and vollatile substances. Powders with dusting substances and semifabricates. Determination of quality characteristics.
6.	Physical-chemical and technological properties of solid initial substances.
7.	Tablets, introduction, characterization, classification, and the theoretical basis of tableting.
8.	Excipients used in the tablet manufacturing process, establish their functions in the tablet production process. Tablets manufacturing, equipment applied in the manufacturing process.
9.	Tablet preparation methods. Direct compression of tablets without excipients. Direct compression of tablets with excipients. Tablets preparation by granulation.
10.	Tablet coating, coating methods: film coating, sugar coating, compression coating. Molded tablets, characterization, technology.
11.	Tablet defects, and determination of reasons and corrective measures.
12.	Quality requirements for tablets and their determination methods. Packaging, labeling, and storage condition of tablets.
13.	Capsules, characterization, classification, technology, standardization, packaging, storage.
14.	Ointments, characterization, classification, requirements for preparation. Preparation technology of homogeneous and heterogeneous ointment.
15.	Homogenous ointment: ointment solution, ointment alloy, extraction ointment (preparation, characterization).
16.	Heterogenous ointments: suspension ointment, emulsion ointment, combines ointments (preparation, characterization).
17.	Ointment manufacturing methods. The technology of gels and liniments. Equipment and machines applied in the manufacturing process of ointments. Standardization, packaging, storage.
18.	Suppositories, characterization, classification, preparation methods of suppositories, technology, standardization, packaging, and storage.
19.	Preparation suppository by hand rolling method. Preparation suppository by pour molding method.
20.	Suppository standardization. The technology of suppositories in industrial conditions.
21.	Transdermal drug delivery systems, characterization, classification, preparation technology.
22.	Patches, characterization, classification. The technology of simple lead patches, standardization, packaging, and storage.
23.	Aerosols, characterization, classification. Propellents.

24.	Manufacturing of aerosols. Filling methods of aerosol ballons. Standardization, packaging, storage.
25.	Sterile dosage forms. Requirements for injections, and manufacturing conditions. Glass and polymeric materials for ampoules. Classes of glass, quality characteristics for ampoule glass. Glass rod, washing, and drying, filling, soldering, methods of ampoules.
26.	Solvents (vehicles) used in the manufacturing process of injections. Demineralized water and water for injection. Non-aqueous solvents. Requirements for solvents
27.	Sterilization. Sterilization types. Sterilization methods. Sterility, apyrogenicity.
28.	Stabilization methods for injection, stabilizers, antimicrobial agents, and antioxidants. Preparation technology of injection. Special cases. Standardization.
29.	Infusions, characterization, classification, technology, packaging, storage. Injectable emulsion, suspension, powder, and tablets.
30.	Ophthalmic dosage forms, characterization, classification. Preparation of ophthalmic dosage forms. Standardization, packaging, storage.

Test question examples:

- Write tablet processing problems, write the definition of each.
- The effectiveness of any method of sterilization is also dependent upon four other factors: what are they?
- What are the stages of pour molding method for suppositories?
- What is clean room? Write main requirements for clean room)
- Describe oleaginous bases for suppositories (properties, advantages, disadvantages)