

QUESTION BANK
Pharmaceutical Technology and Biopharmaceutics (RS 4)
IV Year B. Pharm

Chapter/Module: PREFORMULATION AND TABLETS

10 marks:

1. (A) With a neat labeled diagram, explain rotary compression process of tablet manufacturing. (B) Discuss the defects in film coating process.
2. Define tablet coating, write the types of coating and explain the film coating composition.
3. A) Discuss the tablet compression cycle by multistation rotary press.
B) Write the reasons and remedies for capping and lamination.
4. Explain preformulation studies involved in development of tablet dosage forms
5. Explain importance of solubility, dissociation constant and partition co-efficient of drug in development of solid dosage forms.
6. Discuss dry granulation technique and list out advantages and disadvantages
7. Classify granulation techniques. Discuss the wet granulation method along with equipments used in the each step.
8. Give a detailed account of the different excipients and their functions used in the tablets

5 Marks:

1. Describe the importance of partition co-efficient in the drug design with suitable examples.
2. Describe quality control tests for tablets
3. Define the term preformulation and explain the parameters to be considered in preformulation studies.
4. Describe formulation of chewable and sublingual tablets
5. Discuss the steps involved in sugar coating with suitable examples of ingredients used in each step
6. B) Discuss diluents and disintegrants used in tablet preparation
7. Emphasize on different stages involved in sugar coating of a compressed tablets
8. Enlist the methods of enhancing the solubility of drugs

2 Marks:

1. What is intrinsic solubility of drugs? Give its significance
2. What are hydrates and solvates give examples?
3. Differentiate disintegrants and super disintegrants with examples.
4. Significance of bland excipient in buccal tablets
5. Differentiate diluents and directly compressible vehicles by giving examples.
6. Define true and pseudo polymorphs
7. What are disintegrants and give two examples.
8. List the advantages and disadvantages of amorphous solid forms.
9. What are chewable tablets? Give its advantages
10. What are enteric coating polymers? Name any two examples
11. What tablet troches and lozenges
12. List out the lubricants used in tablets
13. List the quality control tests for tablet
14. Write a note on chewable tablets
15. List out the manufacturing defects of tablets.

Chapter/Module: CAPSULES**5 marks:**

1. Explain the steps involved in manufacturing of hard gelatin capsules shells
2. Discuss any two quality control tests for capsules
3. Explain nature of soft gelatin capsule content.
4. Explain the steps involved in manufacturing of hard gelatin capsules shells
5. Discuss the production of empty hard gelatin capsules
6. Explain the rotary die process for manufacturing of soft gelatin capsules
7. Explain the filling process of hard gelatin capsules
8. Explain the quality control tests of capsules
- 9.

2 Marks

1. Storage conditions for capsules.
2. Types of gelatin in capsules.
3. Name plasticizers used in capsules.
4. Measurement of bloom strength of gelatin.
5. Define minimum per gram factors by giving formula
6. Give the methods for polishing of hard gelatin capsules
7. Define bloom strength.
8. Write on different sizes of hard gelatin capsules
9. Write on nature of soft gelatin capsule shell.

Chapter/Module: PARENTERAL PRODUCTS**10 marks:**

1. Describe quality control tests for the parenterals dosage forms.
2. Discuss in detail the production facilities for parenterals
3. Write the elaborate discussion on primary packaging materials of parenteral dosage forms.

5 marks:

1. Write a note on environmental control during the manufacture of parenteral products
2. What are the sources of contamination in parenteral production and write methods to overcome
3. Write the specifications and methods of preparation of WFI.
4. Discuss in detail the formulation of parenterals
5. Discuss maintenance of environment in parenteral production in detail along with cleaning and sterilization techniques.
6. Discuss the merits and demerits of glass as a packaging material for parenterals
7. Write a note on formulations of small volume parenterals.

2 marks

1. List out non-aqueous vehicles used in parenterals.
2. Define pyrogens
3. What are depot injections?
4. Leakage test for parenterals.
5. Requirements of oily vehicles in parenterals.
6. Advantage of pull sealing over tip sealing of ampoules.
7. Write a short note on sterile powders for injection.
8. Write different methods of sealing of ampoules.

9. What do you mean by 'class 100' clean area
10. Give two examples of antioxidants used in parenterals
11. Write in vitro method for testing of pyrogens
12. Name the methods of adjustment of isotonicity
13. Significance of isotonicity and name the methods of adjustment.
14. What is LAL test?
15. Significance of isotonicity in parenterals.

Chapter/Module: OPHTHALMIC FORMULATIONS**5 marks:**

1. Write a note on containers for ophthalmic preparations
2. Discuss the formulation of an eye ointment.
3. Write a note on evaluation of an eye ointment.
4. Write a note on evaluation of eye drops.
5. Describe formulation of ophthalmic gels.
6. Describe formulation of ophthalmic suspensions.
7. Explain the formulation of eye drops
8. Explain the manufacturing of ophthalmic ointment
9. Explain the requirements for the ophthalmic preparations

2 marks

1. Write the ideal requirements of ophthalmic suspension
2. Advantages of ophthalmics
3. Role of viscosity modifiers in ophthalmics
4. Importance of sterilization for ophthalmic dosage forms.
5. Stabilizing agents used in eye drops
6. Name the any four preservatives used in ophthalmics.
7. Name any four preservatives used in ophthalmic preparations
8. Name sterilization methods for eye ointment

Chapter/Module: LIQUID ORALS**5 marks:**

- 6 Give a note on stabilization of liquid orals
- 7 List out approved colourants and flavourants in liquid orals. Differentiate dyes from lakes.
- 8 How do you solve solubility and stability problems in the development of liquid orals.
- 9 Discuss the formulation of reconstitutable suspension with a suitable formula.
- 10 Explain filling and packing of liquid orals.
- 11 Classify liquid oral. What are its ideal characteristics?
- 12 Explain the challenges faced in the development of oral suspension
- 13 Enumerate the manufacturing considerations for liquid orals
- 14 Describe the methods of filling liquid oral dosage forms
- 15 Explain in detail formulation of liquid oral dosage forms

2 marks

1. Merits and demerits of volumetric filling.

2. Name the filling techniques of liquid orals.
3. Significance of viscosity in liquid orals.
4. Organoleptic additives of liquid orals.
5. Name the type of ingredients used in oral suspensions.
6. What do you mean by gravimetric and volumetric filling of liquid orals
7. Name any two approved flavors and colorants in liquid orals.
8. Write the merits of constant level filling technique of liquid orals
9. Importance of overages in vitamin formulation

Chapter/Module: PHARMACEUTICAL AEROSOLS**10 marks:**

1. Define pharmaceutical aerosols with their merits and demerits. Add a note on foam type aerosols. (6+4)

5 marks:

2. Write an elaborate note on three phase systems of aerosols with examples.
3. Discuss components of aerosols formulation.
4. Write a detailed note on propellants
5. Describe the stability testing methods for pharmaceutical aerosols
6. Explain in details containers used for aerosols
7. Discuss and differentiate the pressure filling and cold filling of aerosols
8. Discuss in brief the formulation of aerosols.
9. Explain two filling methods in manufacturing of pharmaceutical aerosols

2 marks:

1. Test for combustibility of aerosols.
2. Write a note on quick breaking foam aerosols.
3. Types of actuators used in aerosols.
4. Write particle size analysis in aerosols
5. What are two phase systems of aerosols
6. Types of actuators in aerosols
7. Write the advantages of metered dose inhalers.
8. List evaluation test for aerosols
9. Discuss the formulation of toothpaste
10. Classify the propellants with suitable examples
11. Write the valve system of aerosol
12. What are metered dose inhalers
13. List out different containers used in aerosol formulations

Chapter/Module: COSMETICS**5 Marks**

1. Write the formulation and preparation clear liquid shampoo.
2. Name formulation ingredients in vanishing cream.
3. Define cream write the formulation of foundation cream.
4. Formulation and preparation of moisturizing cream
5. Write the principle involved in the formation of creams. Discuss various alkalies used in cream formulation
6. Classify face and talcum powders. Give method of preparation of compact powders.
7. What are solid components used in lipsticks preparation, write any one method of preparation of lipsticks.
8. What are the factors to be considered for formulation of eye lotion

9. Emphasize on formulation of lipstick.
10. Write a note on nail lacquers

2 marks:

11. Film forming agents in nail lacquers.
12. Anti-caring agents in dentifrices.
13. Write a formula to prepare tooth paste.
14. Ideal properties of shampoos
15. What are conditioning agents used in shampoos give two examples.
16. Explain the procedure to prepare hair dye with suitable formula
17. What are abrasives? Give two examples.
18. Write the formulation of face powder
19. write a formula of cold cream
20. Write a formula for sunscreen lotion

Chapter/Module: Biopharmaceutics**10 marks:**

1. Classify and discuss the factors affecting drug absorption.
2. What is Bioavailability? Describe the measurement of Bioavailability

Define absorption and discuss mechanisms of drug absorption

5 Marks:

1. Explain role of salt and esters in improvement of dissolution of drugs.
2. Draw a typical blood level time profiles after oral administration of drug and explain various pharmacokinetic parameters.
3. Write the pharmaceutical factors influencing absorption of drugs.
4. Explain physiological factors influencing drug absorption
5. Explain patient related factors influencing drug absorption
6. Discuss application of pharmacokinetics in dosage form development.
7. Emphasize the passive diffusion of drug absorption
8. Write the physicochemical factors affecting drug absorption

2 marks

1. Write the BCS classification of drugs by giving examples
2. State and give Fick's law of diffusion.
3. Blood level curves for IM and sustained release dosage form.
4. Define bioequivalence and pharmaceutical equivalence.
5. Define pharmacokinetics and pharmacodynamics.
6. Significance of pharmacokinetic studies.
7. Draw the blood level curve for IM and sustained release dosage forms.
8. Define biopharmaceutics and write its applications
9. What do you mean by down and uphill transport of drug absorption.
10. State and give Noye's Whitney equation
11. Medicated shampoos
12. Define T_{max}, C_{max}, t_{1/2}, AUC.
13. Draw the blood level curve for oral and IV administration
14. Differentiate the absolute and relative bioavailability
15. What is Biopharmaceutic classification system of drugs?
16. Define bioavailability and bioequivalence
17. What is pinocytosis and phagocytosis

18. Define bioequivalence
19. What is base adsorption?

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