

Practice MCQ for Government Exams

Here are some practice MCQ for government exams on the Pharmaceutics I unit II.

Pharmaceutical calculations: Weights and measures – Imperial & Metric system, Calculations involving percentage solutions, alligation, proof spirit and isotonic solutions based on freezing point and molecular weight.

Powders: Definition, classification, advantages and disadvantages, Simple compound powders – official preparations, dusting powders, effervescent, efflorescent and hygroscopic powders, eutectic mixtures. Geometric dilutions.

Liquid dosage forms: Advantages and disadvantages of liquid dosage forms Excipients used in formulation of liquid dosage forms. Solubility enhancement techniques

1. Units of measurement in the metric system are based on:

- A. The inch and pound
- B. The meter and kilogram
- C. The gallon and ounce
- D. A combination of A and C

2. Converting between the metric and imperial systems requires:

- A. Simple multiplication
- B. Knowledge of conversion factors
- C. Ignoring the decimal point
- D. Rounding to the nearest whole number

3. To convert grams (g) to milligrams (mg), you would:

- A. Divide by 1000
- B. Multiply by 1000
- C. Divide by 100
- D. Multiply by 100

4. A common unit of volume in the imperial system is the:

- A. Liter
- B. Milliliter (mL)

- C. Fluid ounce (fl oz)
- D. Cubic centimeter (cm³)

5. When preparing a 10% w/v solution, you dissolve:

- 1A. 0 g of solute in 1 mL of solvent
- B. 10 mL of solute in 100 mL of solvent
- C. 10 g of solute in 100 mL of solvent
- D. The concentration is too low, impossible to achieve

6. Alligation is a method used to calculate the:

- A. Chemical reaction rate
- B. Mixing ratio for desired solution strength
- C. Expiry date of a medication
- D. Bioavailability of a drug

7. Proof spirit is a:

- A. Pure form of alcohol
- B. Mixture of alcohol and water with a specific ethanol content (around 50%)
- D. Type of antibiotic medication
- D. Measurement of drug potency

8. Isotonic solutions have the same:

- A. Chemical composition
- B. Freezing point
- C. Color and viscosity
- D. pH level

9. To calculate the freezing point depression of a solution, you need to know the:

- A. Dosage form of the medication
- B. Molecular weight of the solute and its molality
- C. Brand name of the drug

D. Expiry date of the solvent

10. A lower molecular weight of a solute will generally result in:

- A. A higher freezing point depression
- B. No change in freezing point
- C. A higher boiling point
- D. A slower rate of absorption

11. Pharmacists use their knowledge of pharmaceutical calculations to:

- A. Recommend the best brand of medication
- B. Accurately measure and prepare medications
- C. Diagnose and treat diseases
- D. Develop new medications

12. Accurate calculations are crucial in pharmacy to avoid:

- A. Increased medication costs
- B. Medication errors and potential harm to patients
- C. Faster pharmacy wait times
- D. Expired medications being dispensed

13. When converting between units, it is important to:

- A. Round to the nearest whole number at each step
- B. Pay attention to significant figures and use proper rounding rules
- C. Ignore the decimal point altogether
- D. Always use the same conversion factor regardless of the units

14. Double-checking calculations is a recommended practice in pharmacy to:

- A. Impress the doctor
- B. Minimize the risk of errors
- C. Save time during dispensing
- D. Show expertise in pharmacology

15. Pharmacists can utilize technology, such as electronic calculators and software, to:

- A. Rely solely on technology and skip manual calculations
- B. Improve efficiency and accuracy in calculations
- C. Delegate all calculations to pharmacy technicians
- D. Access information about new medications only

16. Strong problem-solving skills are important for pharmacists because:

- A. They need to solve customer complaints quickly
- B. They may encounter complex dosing scenarios
- C. They need to convince patients to buy certain medications
- D. They manage pharmacy inventory levels

17. Keeping up-to-date with the latest pharmaceutical calculations is important for:

- A. Marketing new medications more effectively
- B. Ensuring the safe and effective use of medications
- C. Completing administrative tasks more efficiently
- D. Understanding the latest drug discovery research

18. When a pharmacist encounters an unclear prescription, they should:

- A. Guess the intended dose and dispense the medication
- B. Contact the prescribing healthcare professional for clarification
- C. Dispense a lower dose to avoid potential harm
- D. Substitute the medication with a similar brand

19. Effective communication with prescribers is essential to ensure:

- A. Faster prescription processing
- B. Accurate and safe medication use for patients
- C. Increased sales for pharmaceutical companies
- D. Reduced workload for pharmacists

20. Pharmacists play a vital role in the healthcare system by:

- A. Acting as salespeople for drug companies
- B. Ensuring the safe and effective use of medications
- C. Focusing solely on dispensing medications
- D. Diagnosing and treating illnesses themselves

21. Powders are a dosage form consisting of:

- A. Liquids only
- B. Finely divided dry particles
- C. Gaseous substances
- D. A combination of A and C

22. Powders can be classified according to:

- A. Color and taste only
- B. Particle size, intended use, and complexity
- C. Brand name of the drug
- D. Expiry date of the ingredients

23. Advantages of powders include:

- A. Difficulty in swallowing
- B. Ease of administration, dosage flexibility, and stability
- C. Unpleasant taste
- D. Short shelf life

24. Disadvantages of powders include:

- A. Easy and accurate measurement
- B. Bulkiness, potential for caking, and unpleasant taste
- C. Long shelf life
- D. Reduced risk of errors

25. Simple powders contain:

- A. A single ingredient only
- B. Two or more ingredients with similar physical properties
- C. A liquid mixed with dry ingredients
- D. A medication mixed with a flavored base

26. Compound powders contain:

- A. A single ingredient only
- B. Two or more ingredients with potentially different physical properties
- C. A liquid mixed with dry ingredients
- D. A medication mixed with a flavored base

27. Official preparations are powders listed in pharmacopoeias, such as:

- A. Only brand-name medications
- B. Any type of powder medication
- C. Powders for external use only
- D. Powders compounded by pharmacists

28. Dusting powders are intended for:

- A. Internal use
- B. External application to absorb moisture or promote healing
- C. Dissolving in water for oral administration
- D. Sublingual administration

29. Effervescent powders:

- A. Release gas upon contact with water
- B. Absorb moisture from the air
- C. Form a sticky mass when exposed to air
- D. Change color when exposed to light

30. Efflorescent powders:

- A. Release gas upon contact with water

- B. Lose water molecules and become powdery when exposed to air
- C. Form a sticky mass when exposed to air
- D. Change color when exposed to light

31. Hygroscopic powders:

- A. Release gas upon contact with water
- B. Absorb moisture from the air
- C. Form a sticky mass when exposed to air
- D. Change color when exposed to light

32. Eutectic mixtures are:

- A. Combinations of drugs with undesirable interactions
- B. Liquid mixtures that solidify at a lower temperature than either component alone
- C. Powders that are difficult to mix evenly
- D. Powders that are highly flammable

33. Geometric dilution is a technique used for:

- A. Mixing potent drugs with bulking agents
- B. Preparing effervescent powders
- C. Adding flavorings to powders
- D. Converting liquids to powders

34. Geometric dilution involves:

- A. Mixing equal parts of a drug with a diluent
- B. Serially diluting a drug in a geometric progression (e.g., 1:10, 1:100)
- C. Adding a fixed amount of diluent to a drug
- D. Dissolving a drug in a specific solvent

35. Geometric dilution is important for ensuring:

- A. Consistent potency throughout the powder mixture
- B. Faster absorption of the medication

- C. A pleasant taste for the patient
- D. A longer shelf life for the powder

36. Pharmacists need to be aware of the properties of powders to:

- A. Recommend the most expensive brand
- B. Select appropriate containers and storage conditions
- C. Market powders more effectively
- D. Delegate all powder dispensing to technicians

37. Proper dispensing techniques are crucial for powders to avoid:

- A. Increased sales for the pharmacy
- B. Segregation of ingredients and inaccurate dosing
- C. Faster processing of prescriptions
- D. Expired medications being dispensed

38. When dispensing powders, pharmacists should provide patients with:

- A. Just the medication
- B. Instructions on proper use and storage, including potential for caking, and how to properly measure the dose if applicable.
- C. Information about potential side effects only
- D. Recommendations for alternative therapies

39. Advantages of liquid dosage forms include:

- A. Difficulty in swallowing for some patients
- B. Ease of administration, especially for children or those with swallowing problems
- C. Faster absorption compared to some solids
- D. All of the above

40. Disadvantages of liquid dosage forms include:

- A. Easy and accurate measurement
- B. Bulky for storage and transport, potential for instability

- C. Long shelf life
- D. Reduced risk of errors

41. Excipients are inactive ingredients added to liquid dosage forms to:

- A. Increase the price of the medication
- B. Improve stability, taste, and other properties
- C. Make the medication more addictive
- D. Change the color of the medication for marketing purposes

42. Examples of excipients used in liquids include:

- A. Only coloring agents
- B. Solvents, suspending agents, sweeteners, thickeners, and preservatives
- C. Only flavorings
- D. Only active pharmaceutical ingredients (APIs)

43. Solubility enhancement techniques are used to:

- A. Make medications more expensive
- B. Improve the ability of a drug to dissolve in a liquid
- C. Change the color of the medication
- D. Mask the unpleasant taste of some medications

44. Common solubility enhancement techniques include:

- A. Adding salt forms of the drug
- B. Using particle size reduction
- C. Employing complexation with cyclodextrins
- D. All of the above

45. Controlling the pH of a liquid dosage form can impact:

- A. The color of the medication only
- B. The stability and solubility of the drug
- C. The taste of the medication only

D. The marketing strategy for the medication

46. Preservatives are added to liquid dosage forms to:

- A. Improve the taste
- B. Prevent microbial growth
- C. Change the color
- D. Increase the potency

47. Alcohol is sometimes used as a solvent or preservative in liquid medications, but pharmacists should be aware of potential:

- A. Increased marketing costs
- B. Interactions with other medications or patient conditions
- C. Faster absorption of the drug only
- D. A more pleasant taste for patients

48. When dispensing liquid medications, pharmacists should provide patients with:

- A. Just the medication bottle
- B. Instructions on proper use, storage, and how to measure the correct dose
- C. Information about potential side effects only
- D. Recommendations for alternative therapies without explaining the benefits of the medication

49. Proper storage of liquid medications is crucial to ensure:

- A. Faster absorption by the body
- B. Potency, stability, and effectiveness
- C. A more pleasant taste for the patient
- D. Increased sales for the pharmacy

50. Liquid dosage forms can be a convenient option for some patients, but pharmacists need to consider the:

- A. Brand name of the medication
- B. Specific needs and preferences of the patient, along with the medication properties
- C. Expiry date of the medication only

D. Marketing strategy for the liquid medication

Answers

1. Units of measurement in the metric system are based on: **B. The meter and kilogram**
2. Converting between the metric and imperial systems requires: **B. Knowledge of conversion factors**
3. To convert grams (g) to milligrams (mg), you would: **B. Multiply by 1000**
4. A common unit of volume in the imperial system is the: **C. Fluid ounce (fl oz)**
5. When preparing a 10% w/v solution, you dissolve: **C. 10 g of solute in 100 mL of solvent**
6. Alligation is a method used to calculate the: **B. Mixing ratio for desired solution strength**
7. Proof spirit is a: **B. Mixture of alcohol and water with a specific ethanol content (around 50%)**
8. Isotonic solutions have the same: **B. Freezing point**
9. To calculate the freezing point depression of a solution, you need to know the: **B. Molecular weight of the solute and its molality**
10. A lower molecular weight of a solute will generally result in: **A. A higher freezing point depression**
11. Pharmacists use their knowledge of pharmaceutical calculations to: **B. Accurately measure and prepare medications**
12. Accurate calculations are crucial in pharmacy to avoid: **B. Medication errors and potential harm to patients**

13. When converting between units, it is important to: **B. Pay attention to significant figures and use proper rounding rules**
14. Double-checking calculations is a recommended practice in pharmacy to: **B. Minimize the risk of errors**
15. Pharmacists can utilize technology, such as electronic calculators and software, to: **B. Improve efficiency and accuracy in calculations**
16. Strong problem-solving skills are important for pharmacists because: **B. They may encounter complex dosing scenarios**
17. Keeping up-to-date with the latest pharmaceutical calculations is important for: **B. Ensuring the safe and effective use of medications**
18. When a pharmacist encounters an unclear prescription, they should: **B. Contact the prescribing healthcare professional for clarification**
19. Effective communication with prescribers is essential to ensure: **B. Accurate and safe medication use for patients**
20. Pharmacists play a vital role in the healthcare system by: **B. Ensuring the safe and effective use of medications**
21. Powders are a dosage form consisting of: **B. Finely divided dry particles**
22. Powders can be classified according to: **B. Particle size, intended use, and complexity**
23. Advantages of powders include: **B. Ease of administration, dosage flexibility, and stability**
24. Disadvantages of powders include: **B. Bulkiness, potential for caking, and unpleasant taste**
25. Simple powders contain: **A. A single ingredient only**

26. Compound powders contain: **B. Two or more ingredients with potentially different physical properties**
27. Official preparations are powders listed in pharmacopoeias, such as: **B. Any type of powder medication**
28. Dusting powders are intended for: **B. External application to absorb moisture or promote healing**
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32. Eutectic mixtures are: **B. Liquid mixtures that solidify at a lower temperature than either component alone**
33. Geometric dilution is a technique used for: **A. Mixing potent drugs with bulking agents**
34. Geometric dilution involves: **A. Mixing equal parts of a drug with a diluent**
35. Geometric dilution is important for ensuring: **A. Consistent potency throughout the powder mixture**
36. Pharmacists need to be aware of the properties of powders to: **B. Select appropriate containers and storage conditions**
37. Proper dispensing techniques are crucial for powders to avoid: **B. Segregation of ingredients and inaccurate dosing**
38. When dispensing powders, pharmacists should provide patients with: **B. Instructions on proper use and storage, including potential for caking, and how to properly measure the dose if applicable.**

39. Advantages of liquid dosage forms include: **B. Ease of administration, especially for children or those with swallowing problems**
40. Disadvantages of liquid dosage forms include: **B. Bulky for storage and transport, potential for instability**
41. Excipients are inactive ingredients added to liquid dosage forms to: **B. Improve stability, taste, and other properties**
42. Examples of excipients used in liquids include: **B. Solvents, suspending agents, sweeteners, thickeners, and preservatives**
43. Solubility enhancement techniques are used to: **B. Improve the ability of a drug to dissolve in a liquid**
44. Common solubility enhancement techniques include: **D. All of the above**
45. Controlling the pH of a liquid dosage form can impact: **B. The stability and solubility of the drug**
46. Preservatives are added to liquid dosage forms to: **B. Prevent microbial growth**
47. Alcohol is sometimes used as a solvent or preservative in liquid medications, but pharmacists should be aware of potential: **B. Interactions with other medications or patient conditions**
48. When dispensing liquid medications, pharmacists should provide patients with: **B. Instructions on proper use, storage, and how to measure the correct dose**
49. Proper storage of liquid medications is crucial to ensure: **B. Potency, stability, and effectiveness**
50. Liquid dosage forms can be a convenient option for some patients, but pharmacists need to consider the: **B. Specific needs and preferences of the patient, along with the medication properties**