PHB Education

Government Exam and D. Pharm Exit Exam Preparation

Questions Bank

Subject: Pharmaceutics

Chapter 9 : Extraction

Section 1: Introduction to Extraction

---

1. Extraction is a process of _____.
   a) Mixing two liquids
   b) Separating soluble constituents from a solid or liquid
   c) Filtration
   d) Evaporation
   → **b**
2. The solvent used in extraction is known as _____.
   a) Extractant
   b) Solute
   c) Precipitant
   d) Binder
   → **a**
3. The material from which extraction is carried out is called _____.
   a) Solute
   b) Menstruum
   c) Marc
   d) Drug
   → **c**
4. Extraction is used to obtain _____.
   a) Active constituents from crude drugs
   b) Color from dyes
   c) Both a and b
   d) None
   → **a**
5. The final liquid obtained after extraction is known as _____.
   a) Solution
   b) Extract
   c) Tincture
   d) Decoction
   → **b**

6. The solid residue left after extraction is called _____.

   a) Marc

   b) Filtrate

   c) Solvent

   d) Extract

   → **a**

7. Extraction is mainly used in preparation of _____.

   a) Tablets

   b) Syrups

   c) Tinctures and extracts

   d) Powders

   → **c**

8. The solvent should be _____.

   a) Selective for active principles

   b) Non-toxic

   c) Easily recoverable

   d) All of these

   → **d**

9. The efficiency of extraction depends on _____.

   a) Temperature

   b) Solvent type

   c) Particle size of drug

   d) All of these

   → **d**

10. Extraction is a _____ operation.

    a) Unit operation

    b) Mechanical process

    c) Chemical reaction

    d) None

    → **a**

Section 2: Classification of Extraction

---

11. Extraction processes are broadly classified into _____ types.

    a) One

    b) Two

c) Three

d) Four

→ **c**

12. The main types of extraction are:

a) Maceration, Percolation, Infusion

b) Distillation, Crystallization, Sedimentation

c) Filtration, Centrifugation, Evaporation

d) None

→ **a**

13. Based on contact method, extraction can be:

a) Batch or continuous

b) Simple or complex

c) Chemical or physical

d) None

→ **a**

14. In maceration, the solvent remains _____.

a) In contact with drug for definite time

b) Circulated continuously

c) Evaporated

d) Removed immediately

→ **a**

15. Percolation involves _____.

a) Continuous flow of solvent through drug

b) Boiling of drug

c) Grinding of drug

d) Filtration only

→ **a**

16. Soxhlet extraction is a type of _____ extraction.

a) Continuous hot extraction

b) Cold extraction

c) Batch process

d) None

→ **a**

17. Expression is used for extraction of _____.

a) Volatile oils

b) Fixed oils

c) Alkaloids

d) Tannins

→ **b**

18. Digestion is a type of _____ extraction.

a) Maceration at elevated temperature

b) Cold maceration

c) Percolation

d) None

→ **a**

19. Infusion is usually done with _____.

a) Cold water

b) Boiling water

c) Alcohol

d) Ether

→ **b**

20. Decoction involves:

a) Boiling the drug in water

b) Steeping in cold water

c) Dry heating

d) Mixing with solvent

→ **a**

Section 3: Methods of Extraction

---

21. Maceration involves:

a) Soaking the drug in solvent for some time

b) Heating under pressure

c) Using vacuum

d) Centrifugation

→ **a**

22. In maceration, the process duration is usually:

a) 15 min

b) 24 to 72 hours

c) 1 week

d) Instant

→ **b**

23. The maceration process is usually done at:
    a) Room temperature
    b) 100°C
    c) Under vacuum
    d) None
    → **a**
24. Multiple maceration is used to:
    a) Improve extraction efficiency
    b) Reduce solvent use
    c) Reduce time
    d) Filter faster
    → **a**
25. Percolation is:
    a) Passing solvent through a column of drug
    b) Soaking at room temperature
    c) Evaporation
    d) Filtration
    → **a**
26. The container used in percolation is called:
    a) Extractor
    b) Percolator
    c) Macerator
    d) Infuser
    → **b**
27. In percolation, the liquid collected is called:
    a) Percolate
    b) Marc
    c) Filtrate
    d) Residue
    → **a**
28. Soxhlet extractor operates on:
    a) Continuous extraction by repeated solvent circulation
    b) Simple immersion
    c) Distillation
    d) None
    → **a**

29. The solvent in Soxhlet extraction is:
    a) Repeatedly boiled and condensed
    b) Static
    c) Completely replaced
    d) None
    → **a**
30. Soxhlet extraction is mainly used for:
    a) Fixed oils and fats
    b) Volatile oils
    c) Proteins
    d) Enzymes
    → **a**

Section 4: Principle, Construction & Working of Extractors

---

31. Extraction is based on the principle of _____.
    a) Diffusion and dissolution
    b) Evaporation
    c) Condensation
    d) Crystallization
    → **a**
32. The driving force for extraction is:
    a) Concentration gradient
    b) Temperature difference
    c) Pressure
    d) pH
    → **a**
33. The extractor provides:
    a) Maximum contact between solvent and solute
    b) Minimum contact
    c) Filtration only
    d) Centrifugation
    → **a**
34. In Soxhlet extractor, the main parts are:
    a) Flask, thimble, condenser
    b) Flask, funnel, filter paper

c) Column, stirrer, tray

d) None

→ **a**

35. The thimble in Soxhlet extractor holds:

a) Solvent

b) Drug powder

c) Extract

d) Vapour

→ **b**

36. Vapour from solvent flask is condensed and falls on:

a) Drug bed in thimble

b) Condenser tube

c) Beaker

d) Filter paper

→ **a**

37. The siphon tube helps in:

a) Draining the solvent after each cycle

b) Boiling the liquid

c) Condensation

d) Filtration

→ **a**

38. In continuous extraction, solvent is:

a) Recycled and reused

b) Discarded each time

c) Not required

d) None

→ **a**

39. The extractor used for large-scale extraction in industries is:

a) Bollman extractor

b) Soxhlet extractor

c) Percolator

d) Rotavapor

→ **a**

40. The Rotocel extractor is used for:

a) Continuous solid-liquid extraction

b) Liquid-liquid extraction

c) Gas absorption

d) Crystallization

→ **a**

Section 5: Applications of Extraction

---

41. Extraction is used in:

a) Preparation of herbal extracts

b) Isolation of alkaloids

c) Manufacturing of essential oils

d) All of these

→ **d**

42. It is used in the preparation of:

a) Tinctures

b) Infusions

c) Decoctions

d) All of these

→ **d**

43. Extraction helps to obtain:

a) Pure drug constituents

b) Impurities

c) Solvent residues

d) None

→ **a**

44. Extraction is useful in:

a) Pharmaceutical industry

b) Food industry

c) Chemical industry

d) All of these

→ **d**

45. Extraction of caffeine from tea leaves uses:

a) Solvent extraction

b) Distillation

c) Filtration

d) Precipitation

→ **a**

46. Extraction of morphine from opium is an example of:
    a) Solvent extraction
    b) Crystallization
    c) Distillation
    d) Sublimation
    → **a**
47. Extraction of quinine from cinchona bark is done by:
    a) Percolation
    b) Filtration
    c) Centrifugation
    d) None
    → **a**
48. Extraction of oil from seeds is done by:
    a) Soxhlet method
    b) Cold pressing
    c) Both a and b
    d) None
    → **c**
49. Extraction is important in:
    a) Analytical chemistry
    b) Pharmaceutical formulation
    c) Drug isolation
    d) All of these
    → **d**
50. Extraction helps in separation of:
    a) Active from inactive constituents
    b) Impurities from solution
    c) Solvent from solute
    d) None
    → **a**

Section 6: Advantages and Considerations

---

51. Extraction allows:
    a) Efficient recovery of active principles
    b) Loss of constituents

c) Destruction of actives

d) None

→ **a**

52. Solvent should have _____ boiling point.

a) Moderate

b) Very high

c) Very low

d) None

→ **a**

53. Particle size in extraction should be:

a) Small enough for better penetration

b) Very fine to clog pores

c) Coarse and uneven

d) None

→ **a**

54. Excessive grinding may cause:

a) Channeling in percolation

b) Better extraction

c) Rapid diffusion

d) None

→ **a**

55. Temperature during extraction affects:

a) Solubility of solute

b) Diffusion rate

c) Stability of actives

d) All of these

→ **d**

56. Continuous extractors are preferred for:

a) Large-scale extraction

b) Small-scale laboratory work

c) Single samples only

d) None

→ **a**

57. Extraction under vacuum is used for:

a) Heat-sensitive substances

b) Metals

c) Gases

d) None

→ **a**

58. Supercritical CO_2 extraction is used for:

a) Essential oils

b) Sugars

c) Proteins

d) None

→ **a**

59. Extraction efficiency can be increased by:

a) Agitation or stirring

b) Heating

c) Using suitable solvent

d) All of these

→ **d**

60. The most important factor in extraction is:

a) Choice of solvent

b) Type of filter

c) Color of drug

d) Odor of drug

→ **a**

Dr. Arvind Kumar Gupta
(M.Pharm, PDCR, PGDMM & Ph.D)
GATE 2003 Qualified with 97.2 percentile
Dr. S. N. Dev College of Pharmacy
Shamli (U.P.)