

# **PHB Education**

**Government Exam and D. Pharm Exit Exam Preparation  
Questions Bank**

**Subject: *Pharmaceutical Chemistry***

**Chapter -1 (A) : *Introduction to Pharmaceutical chemistry***

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**Section A: 1–20: Introduction to Pharmaceutical Chemistry**

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1. Pharmaceutical chemistry mainly deals with —
- a) Chemical engineering
  - b) Study of chemical aspects of drugs and medicines
  - c) Pharmaceutical marketing
  - d) Pharmacognosy

**Answer: b**

2. Pharmaceutical chemistry is a branch of —
- a) Biology
  - b) Chemistry
  - c) Pharmacology
  - d) Microbiology

**Answer: b**

3. The main focus of pharmaceutical chemistry is —
- a) Drug formulation
  - b) Drug design, synthesis, and analysis
  - c) Drug packaging
  - d) Drug marketing

**Answer: b**

4. Which of the following is NOT related to pharmaceutical chemistry?
- a) Drug synthesis
  - b) Drug analysis
  - c) Drug administration
  - d) Drug design

**Answer: c**

5. The study of physical and chemical properties of drugs is part of —
- a) Pharmacology
  - b) Pharmaceutical chemistry
  - c) Pharmaceutics
  - d) Biochemistry

**Answer: b**

6. Pharmaceutical chemistry connects —

- a) Chemistry and pharmacology
- b) Physics and biology
- c) Mathematics and medicine
- d) Botany and microbiology

**Answer:** a

7. The study of the relationship between chemical structure and biological activity is called —

- a) Pharmacokinetics
- b) Structure–Activity Relationship (SAR)
- c) Toxicology
- d) Pharmacodynamics

**Answer:** b

8. Which of the following is an objective of pharmaceutical chemistry?

- a) To develop new analytical techniques
- b) To understand the mechanism of drug action
- c) To modify existing drugs for better efficacy
- d) All of the above

**Answer:** d

9. Pharmaceutical chemistry involves —

- a) Isolation of plant drugs
- b) Synthesis of new drugs
- c) Study of gene sequences
- d) None of these

**Answer:** b

10. The discipline that combines chemistry, pharmacology, and biology to develop new drugs is —

- a) Pharmacognosy
- b) Pharmaceutical chemistry
- c) Pharmaceutics
- d) Biopharmaceutics

**Answer:** b

11. The chemical modification of known drug molecules to improve potency or reduce toxicity is called —

- a) Drug metabolism
- b) Drug development
- c) Molecular modification

d) Pharmacokinetics

**Answer: c**

12. In pharmaceutical chemistry, **lead compound** refers to —

- a) The final drug
- b) A compound with potential biological activity
- c) A metal-based drug
- d) A placebo

**Answer: b**

13. Analytical chemistry in pharmacy is used for —

- a) Drug synthesis
- b) Drug testing and quality control
- c) Drug formulation
- d) Drug marketing

**Answer: b**

14. Medicinal chemistry is another name for —

- a) Pharmaceutical chemistry
- b) Pharmacognosy
- c) Biochemistry
- d) Physical chemistry

**Answer: a**

15. The ultimate goal of pharmaceutical chemistry is —

- a) To design safe and effective drugs
- b) To increase sales of medicines
- c) To enhance drug prices
- d) To eliminate diseases completely

**Answer: a**

16. The study of impurities and contaminants in drugs belongs to —

- a) Pharmacology
- b) Pharmaceutical analysis
- c) Botany
- d) Biopharmaceutics

**Answer: b**

17. The study of interaction between drug molecules and biological targets is part of —

- a) Pharmaceutical chemistry
- b) Pharmacology
- c) Toxicology

d) Physiology

**Answer: a**

18. The development of prodrugs is done to —

a) Reduce drug cost

b) Improve drug properties like solubility or absorption

c) Increase toxicity

d) Make drugs inactive

**Answer: b**

19. Quality control of drugs involves —

a) Analytical testing

b) Packaging

c) Marketing

d) Labeling

**Answer: a**

20. Pharmaceutical chemistry ensures that —

a) Drugs are pure, safe, and effective

b) Drugs are expensive

c) Drugs are easy to market

d) Drugs have long shelf life only

**Answer: a**

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### **Section B: 21–35: Scope of Pharmaceutical Chemistry**

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21. The scope of pharmaceutical chemistry includes —

a) Drug discovery and design

b) Analytical techniques

c) Regulatory affairs

d) All of the above

**Answer: d**

22. Pharmaceutical chemistry contributes to —

a) Development of generic drugs

b) Development of biosimilars

c) Formulation optimization

d) All of these

**Answer: d**

23. The industrial scope of pharmaceutical chemistry includes —

- a) Quality control
- b) Research and development
- c) Formulation
- d) All of the above

**Answer: d**

24. Pharmaceutical chemists can work in —

- a) Drug regulatory authorities
- b) Research laboratories
- c) Quality assurance departments
- d) All of these

**Answer: d**

25. Analytical instrumentation used in pharmaceutical chemistry includes —

- a) UV–Vis spectrophotometer
- b) HPLC
- c) IR spectrometer
- d) All of these

**Answer: d**

26. Pharmaceutical chemistry helps in —

- a) Patent generation
- b) Drug safety testing
- c) Clinical trials
- d) All of the above

**Answer: d**

27. Chemical synthesis of drugs is most important in —

- a) Herbal formulations
- b) Synthetic drug development
- c) Homeopathy
- d) Ayurvedic medicine

**Answer: b**

28. Which of the following is NOT within the scope of pharmaceutical chemistry?

- a) Toxicology
- b) Pharmacovigilance
- c) Drug pricing
- d) Analytical method development

**Answer: c**

29. One of the key roles of pharmaceutical chemists is —

- a) Ensuring purity and stability of drugs
- b) Managing hospital pharmacies
- c) Dispensing prescriptions
- d) Administering injections

**Answer:** a

30. Which field overlaps most with pharmaceutical chemistry?

- a) Medicinal chemistry
- b) Pharmacognosy
- c) Physiology
- d) Microbiology

**Answer:** a

31. Pharmaceutical chemistry supports pharmacology by —

- a) Providing drugs for biological testing
- b) Conducting animal experiments
- c) Clinical testing
- d) Marketing

**Answer:** a

32. The scope of pharmaceutical chemistry extends to —

- a) Biopharmaceuticals
- b) Biotechnology-based drugs
- c) Radiopharmaceuticals
- d) All of these

**Answer:** d

33. Drug discovery in pharmaceutical chemistry begins with —

- a) Target identification
- b) Packaging
- c) Marketing
- d) Clinical testing

**Answer:** a

34. The study of drug degradation and stability is part of —

- a) Pharmaceutical chemistry
- b) Pharmacology
- c) Microbiology
- d) Toxicology

**Answer:** a

35. Pharmaceutical chemistry contributes to personalized medicine by —
- a) Designing drugs tailored to genetic profiles
  - b) Studying diseases
  - c) Making herbal drugs
  - d) Conducting clinical trials

**Answer:** a

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### **Section C: 36–50: Objectives of Pharmaceutical Chemistry**

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36. One major objective of pharmaceutical chemistry is —
- a) To identify potential drug targets
  - b) To design and synthesize new molecules
  - c) To improve existing drug formulations
  - d) All of these

**Answer:** d

37. Pharmaceutical chemistry aims to ensure —
- a) Safety, efficacy, and quality of drugs
  - b) Profitability
  - c) Advertisement of drugs
  - d) Legal compliance only

**Answer:** a

38. One of the objectives of pharmaceutical chemistry is to reduce —
- a) Toxicity of drugs
  - b) Bioavailability
  - c) Drug absorption
  - d) Patient compliance

**Answer:** a

39. Pharmaceutical chemistry emphasizes —
- a) Analytical accuracy
  - b) Drug innovation
  - c) Rational drug design
  - d) All of the above

**Answer:** d

40. The use of QSAR (Quantitative Structure–Activity Relationship) in pharmaceutical chemistry helps in —
- a) Predicting biological activity

- b) Predicting side effects
- c) Predicting molecular weight
- d) Predicting melting point

**Answer: a**

41. The ultimate objective of drug design is to —
- a) Produce safe and effective therapeutic agents
  - b) Reduce laboratory costs
  - c) Develop herbal medicines
  - d) Eliminate the need for doctors

**Answer: a**

42. Pharmaceutical chemistry promotes —
- a) Scientific understanding of drug mechanisms
  - b) Random synthesis of compounds
  - c) Marketing strategies
  - d) Traditional drug use only

**Answer: a**

43. The study of stereochemistry in pharmaceutical chemistry helps in —
- a) Understanding drug activity differences between enantiomers
  - b) Estimating pH
  - c) Measuring purity only
  - d) None of these

**Answer: a**

44. Pharmaceutical chemistry aids in predicting —
- a) Drug interactions
  - b) Drug pharmacokinetics
  - c) Drug stability
  - d) All of the above

**Answer: d**

45. The objective of analytical pharmaceutical chemistry is —
- a) To determine purity and potency
  - b) To identify impurities
  - c) To ensure quality standards
  - d) All of the above

**Answer: d**

46. Development of green chemistry approaches in drug synthesis aims at —
- a) Reducing environmental hazards
  - b) Increasing toxicity

- c) Maximizing waste
- d) Reducing cost only

**Answer: a**

47. The identification of active moiety in a drug molecule is done to —

- a) Enhance activity
- b) Decrease solubility
- c) Reduce stability
- d) None of these

**Answer: a**

48. One important objective of pharmaceutical chemistry in industry is —

- a) Maintaining GMP compliance
- b) Marketing strategy
- c) Cost reduction only
- d) Sales increase

**Answer: a**

49. Pharmaceutical chemistry ensures quality assurance through —

- a) Analytical validation
- b) Calibration of instruments
- c) Standardization of methods
- d) All of these

**Answer: d**

50. Overall, the goal of pharmaceutical chemistry is —

- a) To bridge chemistry with medicine
- b) To promote traditional drugs
- c) To avoid research
- d) To study microorganisms

**Answer: a**



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