# Question Bank for BP405T – Pharmacognosy and Phytochemistry I
# II B. Pharmacy – IV Semester

Prepared for Faculty and Student Use

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## Introduction

This question bank is designed for BP405T – Pharmacognosy and Phytochemistry I (Theory), aligned with the B.Pharm syllabus (PCI, 2016, pages 174–175). It covers all five units, with at least 10 questions each of 2 marks, 5 marks, and 10 marks per unit, totaling 150 questions. Questions are mapped to Blooms Taxonomy levels (Remembering, Understanding, Applying, Analyzing, Evaluating, Creating) and reference recommended books. The bank is intended for exam preparation, covering the entire syllabus comprehensively.

## Unit I: Introduction to Pharmacognosy

### 2-Mark Questions

1. Define pharmacognosy. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 1]
2. State two applications of pharmacognosy in modern pharmacy. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 3]
3. Name two plant-derived crude drugs. (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 45]
4. What is taxonomical classification of crude drugs? (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 32]
5. Differentiate between organized and unorganized drugs. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 15]
6. What is adulteration in pharmacognosy? (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 65]
7. Name two methods to detect adulteration. (Blooms: Remembering) [Wallis, *Textbook of Pharmacognosy*, p. 45]
8. What is substitution in crude drugs? (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 20]

9. List two animal-derived crude drugs. (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 50]
10. State the scope of pharmacognosy in drug discovery. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 4]

## 5-Mark Questions

1. Explain the history of pharmacognosy with key milestones. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 2–3]
2. Discuss the sources of crude drugs with examples. (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 45–50]
3. Describe morphological classification of crude drugs with examples. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 33–35]
4. Compare taxonomical and pharmacological classification. (Blooms: Analyzing) [Kokate, *Pharmacognosy*, p. 16–18]
5. Explain chemical classification of crude drugs with two examples each. (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 55–60]
6. Discuss types of adulteration in crude drugs. (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 46–48]
7. Describe methods to detect substitution in crude drugs. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 21–22]
8. Explain the role of pharmacognosy in herbal drug industry. (Blooms: Applying) [Rangari, *Pharmacognosy and Phytochemistry*, p. 5–7]
9. Discuss the significance of marine-derived drugs in pharmacognosy. (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 51–53]
10. Analyze the impact of adulteration on drug quality. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 49–50]

## 10-Mark Questions

1. Elaborate on the scope and development of pharmacognosy in modern pharmacy. (Blooms: Evaluating) [Kokate, *Pharmacognosy*, p. 3–5]
2. Discuss the classification of crude drugs with merits and demerits of each type. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 55–62]
3. Evaluate the role of pharmacognosy in drug discovery and development. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 6–10]
4. Explain adulteration and substitution with methods to detect and prevent them. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 45–52]
5. Analyze the sources of crude drugs with their significance in pharmacognosy. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 45–55]

6. Create a case study on the impact of adulteration on herbal drug safety. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 20–23]
7. Discuss the historical evolution of pharmacognosy and its current relevance. (Blooms: Evaluating) [Kokate, *Pharmacognosy*, p. 1–4]
8. Compare and contrast organized and unorganized drugs with examples. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 34–36]
9. Evaluate the challenges in maintaining crude drug quality due to adulteration. (Blooms: Evaluating) [Evans, *Trease and Evans Pharmacognosy*, p. 65–70]
10. Design a strategy to standardize crude drug classification globally. (Blooms: Creating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 15–20]

# Unit II: Cultivation, Collection, Processing, Storage

## 2-Mark Questions

1. List two factors affecting cultivation of medicinal plants. (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 80]
2. What is greenhouse cultivation? (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 50]
3. Name two methods of drying crude drugs. (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 85]
4. Define pest control in cultivation. (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 82]
5. What is the ideal season for bark collection? (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 55]
6. State two storage conditions for crude drugs. (Blooms: Remembering) [Wallis, *Textbook of Pharmacognosy*, p. 60]
7. What is shade-drying? (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 86]
8. Name two organic pest control methods. (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 83]
9. Why is collection time critical for leaves? (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 56]
10. What is garbling in crude drug processing? (Blooms: Remembering) [Wallis, *Textbook of Pharmacognosy*, p. 58]

## 5-Mark Questions

1. Explain the role of soil and climate in cultivation. (Blooms: Understanding) [Rangari, *Pharmacognosy and Phytochemistry*, p. 80–82]
2. Discuss collection techniques for roots and rhizomes. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 55–57]

3. Describe the process of sun-drying with advantages. (Blooms: Applying) [Evans, *Trease and Evans Pharmacognosy*, p. 85–87]
4. Compare organic and chemical pest control methods. (Blooms: Analyzing) [Rangari, *Pharmacognosy and Phytochemistry*, p. 83–85]
5. Explain storage conditions to prevent drug deterioration. (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 60–62]
6. Discuss the impact of irrigation on cultivation yield. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 51–52]
7. Describe the role of garbling in crude drug processing. (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 88]
8. Analyze the challenges in drying volatile oil-containing drugs. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 61]
9. Explain the significance of collection timing for flowers. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 56–57]
10. Discuss pest control strategies for medicinal plants. (Blooms: Understanding) [Rangari, *Pharmacognosy and Phytochemistry*, p. 82–84]

## 10-Mark Questions

1. Elaborate on the factors affecting cultivation with examples. (Blooms: Analyzing) [Rangari, *Pharmacognosy and Phytochemistry*, p. 80–85]
2. Discuss the collection, drying, and storage of crude drugs. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 50–60]
3. Evaluate the role of pest control in ensuring drug quality. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 82–86]
4. Create a plan for cultivating a medicinal plant like Rauwolfia. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 50–53]
5. Analyze the impact of improper storage on crude drug efficacy. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 60–63]
6. Discuss the advantages and limitations of drying methods. (Blooms: Evaluating) [Evans, *Trease and Evans Pharmacognosy*, p. 85–90]
7. Design a storage facility for crude drugs with specifications. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 58–60]
8. Evaluate the role of collection techniques in drug potency. (Blooms: Evaluating) [Evans, *Trease and Evans Pharmacognosy*, p. 80–85]
9. Analyze the challenges in cultivating high-altitude plants. (Blooms: Analyzing) [Rangari, *Pharmacognosy and Phytochemistry*, p. 81–83]
10. Discuss the integration of modern technology in cultivation. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 51–54]

# Unit III: Quality Control and Plant Tissue Culture

## 2-Mark Questions

1. Define organoleptic evaluation. (Blooms: Remembering) [WHO, *Quality Control Methods*, p. 10]
2. What is microscopic evaluation? (Blooms: Remembering) [Mukherjee, *Quality Control of Herbal Drugs*, p. 50]
3. Name two physical evaluation tests. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 70]
4. What is Mayers test used for? (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 75]
5. State the role of WHO in quality control. (Blooms: Remembering) [WHO, *Quality Control Methods*, p. 5]
6. What is plant tissue culture? (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 100]
7. Name two applications of tissue culture. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 80]
8. What is callus culture? (Blooms: Understanding) [Rangari, *Pharmacognosy and Phytochemistry*, p. 102]
9. Define ash value in quality control. (Blooms: Remembering) [Mukherjee, *Quality Control of Herbal Drugs*, p. 55]
10. What is biological evaluation? (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 72]

## 5-Mark Questions

1. Explain organoleptic evaluation with examples. (Blooms: Understanding) [WHO, *Quality Control Methods*, p. 10–12]
2. Discuss microscopic evaluation techniques. (Blooms: Applying) [Mukherjee, *Quality Control of Herbal Drugs*, p. 50–53]
3. Describe chemical evaluation tests for alkaloids. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 75–77]
4. Compare physical and chemical evaluation methods. (Blooms: Analyzing) [Kokate, *Pharmacognosy*, p. 70–72]
5. Explain the role of pharmacopoeial standards. (Blooms: Understanding) [WHO, *Quality Control Methods*, p. 6–8]
6. Discuss the principles of plant tissue culture. (Blooms: Understanding) [Rangari, *Pharmacognosy and Phytochemistry*, p. 100–102]
7. Describe applications of tissue culture in pharmacognosy. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 80–82]

8. Analyze the significance of biological evaluation. (Blooms: Analyzing) [Mukherjee, *Quality Control of Herbal Drugs*, p. 60–62]
9. Explain the role of ash value in quality control. (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 78]
10. Discuss challenges in tissue culture for drug production. (Blooms: Analyzing) [Rangari, *Pharmacognosy and Phytochemistry*, p. 103–105]

### 10-Mark Questions

1. Elaborate on quality control methods for crude drugs. (Blooms: Applying) [WHO, *Quality Control Methods*, p. 10–20]
2. Discuss the role of plant tissue culture in drug production. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 100–106]
3. Evaluate the importance of WHO standards in herbal drugs. (Blooms: Evaluating) [WHO, *Quality Control Methods*, p. 5–10]
4. Analyze the advantages and limitations of microscopic evaluation. (Blooms: Analyzing) [Mukherjee, *Quality Control of Herbal Drugs*, p. 50–55]
5. Create a quality control protocol for a crude drug. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 70–75]
6. Discuss the integration of tissue culture in pharmacognosy. (Blooms: Applying) [Rangari, *Pharmacognosy and Phytochemistry*, p. 100–108]
7. Evaluate the role of chemical evaluation in drug standardization. (Blooms: Evaluating) [Wallis, *Textbook of Pharmacognosy*, p. 75–80]
8. Analyze the challenges in maintaining quality control standards. (Blooms: Analyzing) [WHO, *Quality Control Methods*, p. 15–20]
9. Design a tissue culture lab for secondary metabolite production. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 80–84]
10. Discuss the impact of quality control on herbal drug safety. (Blooms: Evaluating) [Mukherjee, *Quality Control of Herbal Drugs*, p. 50–65]

## Unit IV: Pharmacognosy in Systems of Medicine and Secondary Metabolites

### 2-Mark Questions

1. Define Ayurveda. (Blooms: Remembering) [Aggrawal, *Herbal Drug Technology*, p. 40]
2. What is potentization in Homeopathy? (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 30]
3. Name two Unani drugs. (Blooms: Remembering) [Handa & Kapoor, *Textbook of Pharmacognosy*, p. 25]

4. What are secondary metabolites? (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 100]
5. List two alkaloids with their sources. (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 180]
6. What are glycosides? (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 90]
7. Name two volatile oils and their uses. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 110]
8. Define tannins with one example. (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 200]
9. What are resins in pharmacognosy? (Blooms: Remembering) [Wallis, *Textbook of Pharmacognosy*, p. 95]
10. State the role of Siddha in pharmacognosy. (Blooms: Understanding) [Aggrawal, *Herbal Drug Technology*, p. 42]

## 5-Mark Questions

1. Explain the principles of Ayurveda in drug use. (Blooms: Understanding) [Aggrawal, *Herbal Drug Technology*, p. 40–42]
2. Discuss the role of Homeopathy in pharmacognosy. (Blooms: Applying) [Evans, *Trease and Evans Pharmacognosy*, p. 30–32]
3. Describe the significance of Unani medicine. (Blooms: Understanding) [Handa & Kapoor, *Textbook of Pharmacognosy*, p. 25–27]
4. Explain the properties of alkaloids with examples. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 100–102]
5. Discuss the therapeutic uses of glycosides. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 90–92]
6. Compare volatile oils and fixed oils. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 180–185]
7. Describe the role of tannins in medicine. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 112–114]
8. Analyze the significance of resins in pharmacognosy. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 95–97]
9. Explain the extraction of volatile oils. (Blooms: Applying) [Evans, *Trease and Evans Pharmacognosy*, p. 182–184]
10. Discuss the role of Siddha in herbal drug development. (Blooms: Understanding) [Aggrawal, *Herbal Drug Technology*, p. 42–44]

### 10-Mark Questions

1. Elaborate on the role of Ayurveda and Unani in pharmacognosy. (Blooms: Evaluating) [Aggrawal, *Herbal Drug Technology*, p. 40–45]
2. Discuss the principles and applications of Homeopathy. (Blooms: Applying) [Evans, *Trease and Evans Pharmacognosy*, p. 30–35]
3. Evaluate the therapeutic potential of secondary metabolites. (Blooms: Evaluating) [Kokate, *Pharmacognosy*, p. 100–115]
4. Analyze the role of alkaloids in modern medicine. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 180–190]
5. Create a plan to integrate Siddha drugs in pharmacy. (Blooms: Creating) [Aggrawal, *Herbal Drug Technology*, p. 42–46]
6. Discuss the extraction and uses of volatile oils. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 90–95]
7. Evaluate the challenges in using tannins therapeutically. (Blooms: Evaluating) [Kokate, *Pharmacognosy*, p. 112–116]
8. Analyze the significance of glycosides in cardiac therapy. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 185–190]
9. Design a study to compare Ayurveda and Homeopathy drugs. (Blooms: Creating) [Aggrawal, *Herbal Drug Technology*, p. 40–48]
10. Discuss the role of secondary metabolites in drug discovery. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 120–130]

## Unit V: Plant Products and Primary Metabolites

### 2-Mark Questions

1. Name two plant fibres used in pharmacy. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 130]
2. What is a hallucinogen? (Blooms: Remembering) [Evans, *Trease and Evans Pharmacognosy*, p. 220]
3. Define teratogens with one example. (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 150]
4. What are natural allergens? (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 135]
5. List two carbohydrates used in pharmacy. (Blooms: Remembering) [Wallis, *Textbook of Pharmacognosy*, p. 100]
6. What is the role of lipids in plants? (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 230]
7. Name two protein-based drugs. (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 140]

8. State the use of cotton in pharmacognosy. (Blooms: Understanding) [Wallis, *Textbook of Pharmacognosy*, p. 102]
9. What is the source of jute? (Blooms: Remembering) [Kokate, *Pharmacognosy*, p. 131]
10. Define primary metabolites. (Blooms: Remembering) [Rangari, *Pharmacognosy and Phytochemistry*, p. 145]

## 5-Mark Questions

1. Explain the uses of cotton and jute in pharmacy. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 130–132]
2. Discuss the role of hallucinogens in pharmacognosy. (Blooms: Understanding) [Evans, *Trease and Evans Pharmacognosy*, p. 220–222]
3. Describe the significance of teratogens in drug safety. (Blooms: Understanding) [Rangari, *Pharmacognosy and Phytochemistry*, p. 150–152]
4. Explain the impact of natural allergens on health. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 135–137]
5. Discuss the pharmaceutical uses of starch. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 100–102]
6. Compare the roles of lipids and carbohydrates in plants. (Blooms: Analyzing) [Evans, *Trease and Evans Pharmacognosy*, p. 230–235]
7. Describe the significance of proteins in pharmacognosy. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 140–142]
8. Analyze the role of hemp in modern medicine. (Blooms: Analyzing) [Rangari, *Pharmacognosy and Phytochemistry*, p. 153–155]
9. Explain the processing of plant fibres for medical use. (Blooms: Applying) [Wallis, *Textbook of Pharmacognosy*, p. 102–104]
10. Discuss the role of primary metabolites in drug formulation. (Blooms: Understanding) [Kokate, *Pharmacognosy*, p. 130–140]

## 10-Mark Questions

1. Elaborate on the pharmaceutical applications of plant fibres. (Blooms: Applying) [Kokate, *Pharmacognosy*, p. 130–135]
2. Discuss the role of hallucinogens and teratogens in pharmacognosy. (Blooms: Evaluating) [Evans, *Trease and Evans Pharmacognosy*, p. 220–225]
3. Evaluate the impact of natural allergens on herbal drug safety. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 150–155]
4. Analyze the significance of carbohydrates in drug formulation. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 100–105]
5. Create a plan to use hemp-derived drugs in therapy. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 132–134]

6. Discuss the role of lipids in pharmaceutical applications. (Blooms: Applying) [Evans, *Trease and Evans Pharmacognosy*, p. 230–235]
7. Evaluate the challenges in using proteins as drugs. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 145–150]
8. Analyze the processing and uses of jute in pharmacy. (Blooms: Analyzing) [Wallis, *Textbook of Pharmacognosy*, p. 102–106]
9. Design a study to assess allergenicity of herbal drugs. (Blooms: Creating) [Kokate, *Pharmacognosy*, p. 135–138]
10. Discuss the integration of primary metabolites in drug development. (Blooms: Evaluating) [Rangari, *Pharmacognosy and Phytochemistry*, p. 145–155]