

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II - Semester (PCI) (Backlog) Examination, June 2024**

**Subject: Indian System of Medicine**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five Questions. All Questions carry equal Marks.**

1. Write the importance of shelf life and discuss the methods to determine the stability.
2. Write about the principle and concepts of
  - (a) Ayurveda system of medicine
  - (b) Siddha system of medicine
3. Write the history and concepts of Homeopathy system of medicine. Explain the principles of homeopathy system.
4.
  - (a) Discuss the present status and future prospects of Indian system of medicines.
  - (b) Discuss the basic principle and treatment modalities of naturopathy.
5. What is evaluation? Discuss the problems in standardization. Write the WHO guidelines for standardization of herbal medicines.
6. Write the objectives, functions and achievements of CCRAS, CCRS and CCRH.
7. Describe the objective and Infrastructural requirements, storage area, machinery and equipments, standard operating procedures, documentation and records to be maintained as per good manufacturing practices.
8. Explain the WHO guidelines in standardization of herbal drugs.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II - Semester (PCI) (Backlog) Examination,  
June 2024**

**Subject: Advanced Pharmacognosy- II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. (a) Compare herbal drugs with conventional drugs. [5]  
(b) Discuss about validation of herbal therapies. [10]
2. (a) What is adulteration? Explain different types of adulteration with suitable examples. [8]  
(b) Explain the detection of heavy metals in herbal drugs. [7]
3. (a) Discuss the impact of ethnobotany in traditional medicine. [7]  
(b) Write informative notes on bio-prospecting tools used for drug discovery. [8]
4. Write the IP monograph of [2 x 7.5 = 15]  
(a) *Andrographis paniculata*.  
(b) *Embllica officinalis*
5. Explain the *in-vitro* evaluation methods for antioxidants. [15]
6. Write about *in-vivo* evaluation of Antidiabetic drugs. [15]
7. Write notes on [3 x 5 = 15]  
(a) Efficacy of herbal medicine products  
(b) Determination of foreign matter  
(c) Reverse pharmacology
8. Write notes on [3 x 5 = 15]  
(a) Ethnopharmacology.  
(b) Estimation of *curcuma longa*  
(c) Toxicity studies as per OECD guidelines.

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**FACULTY OF PHARMACY**

**M. Pharmacy II - Semester (Pharmacognosy) (PCI) (Backlog) Examination, June 2024**  
**Subject: Medicinal Plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. (a) Discuss the applications of plant biotechnology in Pharmacy. [7]  
(b) Write about DNA recombinant technology. [8]
2. (a) Explain organogenesis in tissue culture in detail. [8]  
(b) Give notes on sterilization methods involved in tissue culture. [7]
3. Explain immobilization technique of plant cell and its applications in production of secondary metabolites. [15]
4. Write informative notes on  
(a) Biotransformation (b) Transgenic plants. [2 x 7.5 = 15]
5. (a) Brief out the applications of fermentation technology. [7]  
(b) Discuss about production of ergot alkaloids. [8]
6. Write note on  
(a) Genetic code (b) Hairy root culture. [2 x 7.5 = 15]
7. Explain different methods of cloning of plant cell and their applications. [15]
8. Explain about  
(a) PCR in plant genome analysis  
(b) Enzymes of Pharmaceutical interest. [2 x 7.5 = 15]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II- Semester (PCI) (Backlog) Examination,  
June 2024**

**Subject: Herbal Cosmetics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five Questions. All Questions carry equal Marks**

1. Write the classes of herbal cosmetics and their importance. Explain various toxicity screening methods for evaluation of herbal cosmetics.
2. Define the terms quality control, quality management and quality assurance. Discuss the quality control methods for the analysis of herbal cosmetics.
3. Write about
  - (a) Hair colorants
  - (b) Lipsticks
  - (c) Dentifrices.
4. Describe the good manufacturing practices in Herbal cosmetics industry.
5.
  - (a) Give an informative note on regulatory requirements for manufacture of herbal cosmetics.
  - (b) Classify types of shampoos and give any two methods of preparations.
6. Write a note on
  - (a) Anti-sunburn preparations.
  - (b) Import and export of herbal cosmetics.
  - (c) Compatibility studies of herbal cosmetics.
7.
  - (a) Discuss the scope and future prospects of herbal cosmetics.
  - (b) Give an informative note on design of herbal cosmetics.
8. Write the physiology and structure of skin. List the various classes of skin cosmetics and describe the preparation of any two types of cleansing creams.

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**FACULTY OF PHARMACY**

**M. Pharm (Pharmacognosy) II Semester (PCI) (Main & Backlog) Examination,  
October 2023**

**Subject: Advanced Pharmacognosy- II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Discuss pharmacodynamic and pharmacokinetic issues of herbal drugs. [15]
2. (a) What is adulteration? Explain different types of adulteration with suitable examples. [8]  
(b) Explain the detection of pesticide residues in herbal drugs. [7]
3. (a) Give informative notes on new developments in herbals. [7]  
(b) Explain role of ethnopharmacology in drug evaluation. [8]
4. Write the IP monograph of  
(a) *Andrographis paniculata*. (b) *Coleus forskolii* [2 x 7.5 = 15]
5. Explain *in-vivo* screening techniques for anticancer drugs. [15]
6. Write about *in-vivo* evaluation of Antidiabetic drugs. [15]
7. Write notes on [3 x 5 = 15]  
(a) validation of herbal therapies  
(b) Heavy metal detection in herbal drugs  
(c) Chemistry of *Boswellia serata*
8. Write notes on [2 x 7.5 = 15]  
(a) Analytical profile of *curcuma longa*.  
(b) In-vitro evaluation of Anti-inflammatory drugs.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main & Backlog) Examination,**  
**November 2023**  
**Subject: Medicinal Plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. (a) Discuss genetic and molecular biology as applied to Pharmacognosy. [8]  
(b) Write informative notes on genetic code and gene expression. [7]
2. (a) What is tissue culture? Explain embryogenesis and its applications. [8]  
(b) Explain sterilization methods used in tissue culture. [7]
3. Explain immobilization technique of plant cell in detail. Give its advantages, disadvantages and applications. [15]
4. What is biotransformation? Discuss about bioreactors for large scale production of secondary metabolites using suitable examples. [15]
5. (a) Explain production of ergot alkaloids in detail. [10]  
(b) Give informative notes on enzymes of Pharmaceutical interest. [5]
6. Write short notes on  
(a) Applications of plant biotechnology. [5]  
(b) Protoplast fusion technique. [5]  
(c) Precursors for production of secondary metabolites. [5]
7. (a) Write notes on Transgenic plants. [7]  
(b) Give informative notes on PCR in plant genome analysis. [8]
8. Write notes on  
(a) DNA recombinant technology. [5]  
(b) Hairy root culture [5]  
(c) Single cell protein. [5]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog) Examination,  
November 2023**

**Subject: Herbal Cosmetics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Describe the various classes of cosmetics. Discuss the regulatory requirements for manufacturing and sale of herbal cosmetics.
2. Write the physiology and structure of skin. List the various classes of skin cosmetics and describe the preparation of any two types of face packs.
3. What are the dentifrices and mouth washes. Describe the preparation standardization of Mouth washes.
4. Give importance of various hair preparations. Write the preparation and standardizations of two shampoos and conditioners.
5. Write about
  - (a) Moisturizing creams
  - (b) Herb and chemical interactions.
  - (c) Scope of herbal cosmetics industry.
6. List various raw materials used in preparations of cosmetics and give their importance with examples. Give an informative note on design of herbal cosmetic formulations.
7. Discuss in detail about toxicity studies and standardization methods of herbal cosmetics.
8. Write a note on
  - (a) Anti-sunburn preparations.
  - (b) Import and export of herbal cosmetics.
  - (c) Compatibility studies of herbal cosmetics.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II- Semester (PCI) (Main & Backlog) Examination,  
November 2023**

**Subject: Indian System of Medicine**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. Define traditional medicine and herbal medicine. List the various classes of traditional medicine. Discuss the principles and concepts of Siddha and Unani systems of medicines.
2. (a) Write the treatment modalities in Naturopathy and Aromatherapy.  
(b) Discuss the importance of Yoga and give a note on Relaxation techniques.
3. Write the history and concepts of Homeopathy system of medicine. Explain the principles of homeopathy system.
4. Write about
  - (i) Ayurvedic pharmacopoeia.
  - (ii) Shodhana process.
  - (iii) Carrier oils in aromatherapy.
5. Discuss the importance of stability studies. Explain the methods of stability studies.
6. What is evaluation? Discuss the problems in standardization. Write the WHO guidelines for standardization of herbal medicines.
7. List the various Ayurvedic formulations and describe the preparation and importance of any four formulations.
8. Write the objectives, functions and achievements of CCRAS, CCRS and CCRH.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Backlog)**  
**Examination, April / May 2023**  
**SUBJECT: Advanced Pharmacognosy-II**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. Describe the plants used in treatment of Diabetes. List the screening techniques for diabetes and explain any three techniques. [15]
2. Define the terms adulteration and substitution. Write the causes, types, prevention and methods for detection of adulteration. [15]
3. Write about [5+5+5]
  - a) OECD guidelines for toxicity studies.
  - b) Phytochemical screening
  - c) Ethnopharmacology
4. Discuss the scope of natural products in drug discovery. Describe the various methods of drug discovery process. [15]
5. Define the term evaluation and explain the methods of drug evaluation. [15]
6. Write about the analytical profile of [7+8]
  - a) Bosewellia serata
  - b) Androgrphis Paniculata
7. Describe the methods of detection for [5+5+5]
  - a) Heavy metals
  - b) Pesticide residues
  - c) Foreign matter.
8. List the plants used in treatment of cancer. Explain any four important screening techniques for cancer studies. [15]

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Code No: E-12247/PCI

**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Backlog) Examination,**  
**May 2023**

**SUBJECT: Herbal Cosmetics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal Marks**

1. Write about various raw materials used in preparation of herbal cosmetics with suitable examples [15]
2. Write the regulatory provisions related to manufacture of cosmetics [15]
3. a) Define herbal cosmetics and write a note on industries involved in the production of herbal cosmetics [8]  
b) Discuss about possible interactions between chemicals and herbs [7]
4. a) Explain the physiology and chemistry of hair and lips. Write the formulation of herbal shampoo with example [10]  
b) Write a brief note on cosmetics for nails [5]
5. Write the formulation and evaluation of herbal moisturizing creams and deodorants. [15]
6. a) What are anti-sunburn preparations write their formulation with examples. [8]  
b) Explain the sensitivity testing of lipsticks and hair dyes. [7]
7. What are tonics and bleaches. Write in detail about preparation and Standardisation of hair and skin bleaches. [15]
8. Write in detail about the quality control tests of shaving preparations and cosmetic pencils. [15]

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Code No: E-12246/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Backlog) Examination,  
April / May 2023**

**SUBJECT: Indian System of Medicine**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. a) Discuss the principles and concepts of Siddha system of medicine.  
b) Write a note on Ayurvedic Pharmacopoeia. [10+5]
2. Describe the standardization methods of crude drugs, herbal formulations as per Indian pharmacopoeia standards. [15]
3. a) Discuss the merits of Yoga Asanas. Write about Pranayama and meditation techniques.  
b) Write the treatment modalities of Naturopathy. [10+5]
4. Write the importance of stability studies. Discuss the various methods of stability studies.
5. Give an informative note on [7+8]  
a) Principles of Homeopathy system of medicine.  
b) Bhasmas and aristas.
6. Write about [7+8]  
a) Toxicity screening techniques  
b) Analytical techniques for testing of Herbal Cosmetics.
7. Write about [5+5+5]  
a) Tridosha  
b) Sodhana process  
c) Preparation of Gutikas
8. Write the merits and demerits of Aromatherapy. Discuss about the oils used in Aromatherapy. [15]

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Code No: E-12244/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Backlog) Examination,  
May 2023**

**SUBJECT: Medicinal Plant Bio-Technology**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

**(5 x 15 = 75 Marks)**

1. a) Give an informative note on historical development of plant biotechnology in medicinal plants.  
b) Write a note on genetic code and gene expression. [5+10]
2. Write about [5+5+5]  
a) Sterilization techniques  
b) Hairy root culture  
c) Synthetic seeds
3. a) Write about DNA recombinant technology. [7+8]  
b) Discuss about RNA and protein replication.
4. Write about [7+8]  
a) Advantages and disadvantages of plant cloning technique.  
b) Role of precursors and elicitors in production of secondary metabolites
- 5 a) Write the sources and production of ergot alkaloids. [9+5]  
b) Write about DNA recombinant technology.
- 6 Describe the methods of Micro propagation and its applications. Write the advantages and disadvantages. [15]
- 7 What is plant cell Immobilization? Describe the various methods of plant cell immobilization and discuss their advantages and disadvantages.
- 8 a) Explain various sterilization techniques in plant tissue culture. [7+8]  
b) Write about the methods of Organogenesis and Embryogenesis.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**

**Examination, December 2022**

**SUBJECT: Advanced Pharmacognosy - II**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. List the medicinal plants used in treatment of cancer. Explain any four in-vivo evaluation techniques for cancer studies.
2. a) What are antioxidants, give the importance and plants having potential antioxidant properties.  
b) Write any three in-vitro antioxidant screening techniques.
3. Write about
  - a) DNA finger printing techniques
  - b) Determination of Foreign matter
  - c) Detection of Microbial contamination
4. a) Write about validation of Herbal drugs  
b) Detection of heavy metals.  
c) Pharmacokinetic issues of herbal drugs
5. What is adulteration; write the methods for prevention, types and detection of adulteration.
6. Give the sources, chemistry and analytical profile of Curcuma longa and Emblica officinalis.
7. Write about
  - a) Andrographis Paniculata
  - b) Coleus forskholii.
8. a) Describe the OECD guidelines for toxicity studies.  
b) Write any two screening methods of Hepatoprotective studies.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**  
**Examination, December 2022**  
**Subject: Herbal Cosmetics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Write in detail about regulatory provisions related to manufacture of cosmetics [15]
2. a) Define and classify herbal cosmetics with examples and write a note on industries involved in the production of herbal cosmetics [9]  
b) Write a brief note on cosmetics for nails [6]
3. a) Write about surfactants, humectants used in the preparation of herbal Cosmetics. [9]  
b) Write a note on some functional herbs used in cosmetics. [6]
4. a) Explain the physiology and chemistry of skin and hair. Write the formulation of hair tonics with examples. [10]  
b) Write the method of preparation of cleansing creams with examples. [5]
5. Explain the evaluation of lipsticks and creams. [15]
6. a) Explain the toxicity studies of hair dyes and depilatories as per Drugs and Cosmetics act. [10]  
b) Write a note on herbal fairness formulations. [5]
7. a) What are dentifrices, write the preparation of tooth pastes and mouthwashes with examples. [10]  
b) Write a brief note on herbal baby products. [5]
8. Explain about formulation of herbal shampoos and herbal oils with examples. [15]

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II - Semester (PCI) (Main & Backlog)**  
**Examination, December 2022**  
**Subject: Medicinal Plant Bio-Technology**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal mark**

1. (a) Discuss the role medicinal plant biotechnology in the development of pharmaceuticals.  
(b) What is plant tissue culture; write the types and application of plant tissue culture technique.
2. (a) Write about DNA recombinant technology.  
(b) Discuss about RNA and protein replication.
3. (a) Explain various sterilization techniques in plant tissue culture.  
(b) Write about the methods of Organogenesis and Embryogenesis.
4. (a) What is Immobilization, and write the application of immobilization techniques. Describe the methods of technique.
5. Write about  
(a) Advantages and disadvantages of plant cloning technique.  
(b) Role of precursors and elicitors in production of secondary metabolites.
6. What is biotransformation? Describe the bioreactors used in large scale production of secondary metabolites.
7. Give an informative note on  
(a) Gene identification techniques  
(b) Applications of PCR technique  
(c) Transgenic plants.
8. (i) Describe the application of fermentation technology.  
(ii) Explain the production of Ergot alkaloids.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**  
**Examination, December 2022**  
**Subject: Indian System of Medicine**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. List the various Ayurvedic formulations and describe the preparation and importance of any four formulations. [15]
2. Describe the objective and Infrastructural requirements, storage area, machinery and equipments, standard operating procedures, documentation and records to be maintained as per good manufacturing practices. [15]
3. a) Describe the merits of Yoga Asanas. Write about Pranayama and meditation techniques.  
b) Write the treatment modalities of Naturopathy. [10+5]
4. Write about [7+8]  
a) Toxicity screening techniques  
b) Analytical techniques for test of Herbal Cosmetics.
5. Write the importance of shelf life and discuss the methods to determine the stability studies. [15]
6. Write a note on [6+9]  
a) Principles of Unani system of medicines  
b) Principles of Homeopathy system of medicine.
7. Write the objectives, functions and achievements of CCRAS, CCRS and CCRH. [15]
8. Give an informative note on [8+7]  
a) Relaxation techniques and pranayama.  
b) Naturopathy

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Supply) Examination,**  
**May 2022**

**Subject: Herbal Cosmetics**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five of the following questions.**

- 1 Write the regulatory provisions related to manufacture of cosmetics.
- 2 Write about various raw materials used in preparation of herbal cosmetics with suitable example.
- 3 (a) Define herbal cosmetic and write a note on industries involved in the production of herbal cosmetics.  
(b) Discuss about possible interactions between chemicals and herbs.
- 4 (a) Explain the physiology and chemistry of hair and lips. Write the formulation of herbal shampoo with example.  
(b) Write a brief note on cosmetics for nails.
- 5 Write in detail about the quality control tests of shaving preparations and cosmetic pencils.
- 6 (a) What are anti-sunburn preparations write their formulation with examples.  
(b) Explain the sensitivity testing of lipsticks and hair dyes.
- 7 What are tonics and bleaches? Write in detail about preparation and standardization of hair and skin bleaches.
- 8 Write the formulation and evaluation of herbal moisturizing creams and deodorants.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Supply) Examination, May 2022**  
**Subject: Medicinal Plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 What is Biotransformation? Discuss the bioreactors for pilot and large scale production.
- 2 Write about:
  - (a) Hairy root culture and its applications
  - (b) Organogenesis.
- 3 What is plant cell immobilization? Describe the various methods of plant cell immobilization and discuss their advantages and disadvantages.
- 4 Write notes on:
  - (a) Sterilization techniques.
  - (b) Applications of PCR in plant genome analysis.
- 5
  - (a) Write the sources and production of ergot alkaloids.
  - (b) Give an informative note on Molecular Pharmacology.
- 6
  - (a) Write a note on genetic code and gene expression.
  - (b) Write about DNA recombinant technology.
- 7 Describe the methods of Micro propagation and its applications. Write the advantages and disadvantages.
- 8
  - (a) Give an informative note on historical development of plant biotechnology in medicinal plants.
  - (b) Write about transgenic plants and synthetic seeds.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Supply) Examination,**  
**May 2022**

**Subject: Advanced Pharmacognosy-II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 (a) Write about the procedures of toxicological issues of herbal medicines.  
(b) Describe the validation of Herbal medicines.
- 2 (a) Describe the factors responsible for adulteration and deterioration of herbal drugs.  
(b) Discuss the methods of adulterations and steps to prevent the adulteration.
- 3 Write a note on:  
(a) Determination of Foreign matter.  
(b) Determination of pesticide residue.  
(c) Determination of heavy metals.
- 4 (a) Define the terms Ethno pharmacology, Ethnobotany, Drug Evaluation and Biopiracy.  
(b) Discuss the various tools in drug discovery of Natural products.
- 5 Give the Analytical profile of  
(a) *Andrographis paniculata*.  
(b) *Coleus forskholii*.
- 6 Give an informative note of  
(a) Reverse Pharmacology.  
(b) Strategies for drug evaluation.
- 7 Write note on causes for cancer. List the anticancer screening techniques and describe any three methods.
- 8 (a) Describe OECD guide lines.  
(b) Describe any three In Vitro antioxidant screening methods.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Supply) Examination,  
May 2022**

**Subject: Indian System of Medicine**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 (a) Describe the document preparation for new drug application.  
(b) Write about TKDL and Geographical Indication.
- 2 Discuss the methods to determine the stability studies and shelf life.
- 3 (a) Discuss the present status and future prospects of Indian systems of medicines.  
(b) Give an informative note on Unani system of medicine.
- 4 Discuss the history, principles, dosage forms and standardization of Homeopathy System of medicine.
- 5 (a) Give an informative note on basic principle of naturopathy and aromapathy.  
(b) Write a note on relaxation techniques and meditation.
- 6 (a) Describe the preparation of document for export registration.  
(b) Write the preparation of any three Ayurvedic formulations.
- 7 Discuss in detail about the Good manufacturing practices in Herbal drug Industry.
- 8 (a) List the Asanas and describe the importance of any three asanas.  
(b) Give an informative on Quality control aspects of ISM drugs.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**  
**Examination, December 2021**

**Subject: Indian System of Medicine**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three of the following questions. (3 x 25 = 75 Marks)**

- 1 Describe the objective and Infrastructural requirements, storage area, machinery and equipments, standard operating procedures, documentation and records to be maintained as per good manufacturing practices.
- 2 Write the objectives, functions and achievements of CCRAS, CCRS and CCRH.
- 3 Write the importance of shelf life and discuss the methods to determine the stability studies.
- 4 List the various Ayurvedic formulations and describe the preparation and importance of any four formulations.
- 5 Write about the principle and concepts of
  - (a) Ayurveda system of medicine
  - (b) Siddha system of medicine.
- 6 Write a note on
  - (a) Ayurvedic Pharmacopoeia
  - (b) Gunapadam
  - (c) Identity of drugs.
- 7
  - (a) Discuss the present status and future prospects of Indian system of medicines.
  - (b) Discuss the basic principle and treatment modalities of naturopathy.
- 8
  - (a) List the Asanas and describe the importance of any three asanas.
  - (b) Give an informative note on meditation and relaxation techniques.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**  
**Examination, November 2021**

**Subject: Advanced Pharmacognosy - II**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three of the following questions. (3 x 25 = 75 Marks)**

- 1 Describe the causes for diabetes. List the screening methods and explain any four in vivo screening techniques for diabetes.
- 2 (a) Give informative note on antioxidants.  
(b) Describe the in vivo screening methods for Anti Inflammatory activity.
- 3 Write the Analytical profile and therapeutic efficacy of  
(a) Curcuma longa  
(b) Embelica officinalis.
- 4 (a) Describe the role of Ethano Pharmacology in drug evaluation.  
(b) Describe the tools for drug discovery of natural products.
- 5 Give an informative note on  
(a) DNA finger printing technique in identification drugs.  
(b) Causes and measures of adulteration.
- 6 Write about  
(a) Determination of Microbial contamination.  
(b) Reverse Pharmacology.  
(c) Determination of Heavy metals.
- 7 (a) Describe the validation methods of herbal therapies.  
(b) Give an informative on drug evaluation.
- 8 Write about:  
(a) OECD guide lines.  
(b) Pharmacokinetics issues of Herbal products.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main) (Backlog)**  
**Examination, December 2021**

**Subject: Medicinal Plant Biotechnology**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three of the following questions. (3 x 25 = 75 Marks)**

- 1 (a) Give an informative note on historical development of plant biotechnology in medicinal plants.  
(b) Write a note on genetic code and gene expression.
- 2 (a) Describe the advantages of plant tissue culture in comparison to cultivation techniques.  
(b) Write about Organogenesis and Protoplast fusion.
- 3 Write about:  
(a) Sterilization techniques  
(b) Hairy root culture  
(c) Synthetic seeds.
- 4 (a) Discuss the types cloning techniques and its applications.  
(b) Give an informative note on Molecular Pharmacology.
- 5 (a) Describe the role of precursors and elicitors in production of phytoconstituents.  
(b) Write about Immobilization techniques and its applications.
- 6 What is Biotransformation? Discuss the bioreactors for pilot and large scale production.
- 7 Write about:  
(a) Applications of PCR technique  
(b) Transgenic plants  
(c) Sequencing of genes.
- 8 (a) Write the sources and production of ergot alkaloids.  
(b) Write about DNA recombinant technology.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II Semester (PCI) (Main & Backlog)**  
**Examination, December 2021**

**Subject: Herbal Cosmetics**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three of the following questions. (3 x 25 = 75 Marks)**

- 1 Write about various raw materials used in preparation of herbal cosmetics with suitable examples.
- 2 (a) Define and classify herbal cosmetics with examples and write a note on some functional herbs used in herbal cosmetics.  
(b) Write in brief about analysis of nail enamels.
- 3 Explain the physiology and chemistry of skin and write the formulation of herbal cleansing cream and vanishing cream with suitable examples.
- 4 (a) Write the formulation and evaluation of herbal shampoos.  
(b) Write a note on herbal fairness formulations.
- 5 (a) Explain the toxicity studies of hair dyes and depilatories as per Drugs and Cosmetics act.  
(b) Write a brief note on skin bleaches.
- 6 What are dentifrices? Write the preparation and standardization of herbal tooth pastes and mouth washes.
- 7 Write in detail about herbal bath products and herbal baby products.
- 8 (a) Explain the formulation and evaluation of herbal face packs and face powders.  
(b) Write in brief about quality control of lipsticks.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Suppl.) Examination,**  
**August 2021**

**Subject: Medicinal Plant Biotechnology**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three questions.**

**(3x25=75 Marks)**

- 1 Explain in detail micro propagation and its applications.
- 2 Write a note on structure and complexity of genome and gene code.
- 3 Explain the techniques of Immobilization of plant cells.
- 4 Write a note on :
  - (a) Synthetic seeds
  - (b) Monoclonal variations
- 5 Write a note on :
  - (a) Organogenesis
  - (b) Embryogenesis
- 6 Explain in detail about Hairy root culture.
- 7 Write a note on :
  - (a) Protoplast fusion
  - (b) Single cell protein
- 8 Explain in detail about sterilization methods in tissue culture.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Suppl.)**

**Examination, July 2021**

**Subject : Herbal Cosmetics**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any Three Questions.**

**(3 x 25 = 75 Marks)**

1. Write about various raw materials used in preparation of herbal cosmetics with suitable examples.
2. a) Define herbal cosmetics. Write in brief about the regulatory provisions related to import of cosmetics.  
b) Write in brief about analysis of nail enamels.
3. a) Explain the formulation of herbal face packs and face powders with examples.  
b) Write about herbal bath products.
4. a) Explain in brief about herbal shampoos and colorants with examples.  
b) Write a note on anti - sunburn preparations.
5. a) Write the formulation of herbal cleansing and vanishing creams.  
b) Explain in brief about evaluation of creams.
6. a) What are tonics and bleaches. Write in brief about formulation of skin tonics.  
b) Write a note on herbal deodorants.
7. Explain the formulation and evaluation of herbal lipsticks.
8. Write in detail about quality control tests of shaving preparations and cosmetic pencils.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Supplementary) Examination,  
July 2021**

**Subject: Indian System of Medicine**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any three questions.**

**(3x25=75 Marks)**

- 1 Discuss the challenges in standardization of herbal medicines and write the methods analysis of herbal drugs with reference to identity, purity and quality.
- 2 Outline the history, principles and fundamentals of Unani and Siddha system of medicine.
- 3 Explain various methods of stability studies for herbal formulations.
- 4 (a) Write a note on treatment modalities of naturopathy  
(b) Write the streams and benefits of yoga  
(c) Describe the aroma oils used and benefits of Aromatherapy.
- 5 (a) Outline the history, principles and concepts of Ayurvedic system of medicine.  
(b) Describe the method of preparation of any four Ayurvedic formulations.
- 6 Write about  
(a) Geographical Indications  
(b) Total Quality Management (TQM)  
(c) Central council for Research in Homeopathy
- 7 Outline the importance, objectives and components of Good manufacturing practices in Herbal industry.
- 8 (a) Outline the process of new drug application.  
(b) Write the Procedure of Export registration.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Suppl.)**

**Examination, July 2021**

**Subject : Advanced Pharmacognosy- II**

**Time: 2 Hours**

**Max. Marks: 75**

**Note: Answer any Three Questions.**

**(3 x 25 = 75 Marks)**

1. Describe the chemistry and analytical profile of Curcuma longa.
2. List the drugs used as Hepatoprotective and describe the any four Pharmacological evaluation methods for Hepatoprotective activity
3. Write about
  - a) OECD guidelines for toxicity studies
  - b) Antioxidants
  - c) Detection of heavy metals
4. a) Define the terms adulteration and describe the caused for adulteration  
b) Discuss Various methods of adulterations and steps to prevent the adulteration.
5. a) Describe the methods of Microbial contamination  
b) Discuss the role of Ethnopharmacology in drug evaluation
6. Write about
  - a) Determination of Foreign matter
  - b) Determination of pesticide residues
  - c) DPPH radical scavenging technique
7. Discuss the role of natural products in the treatment of cancer. Outline the in vivo anti cancer screening techniques.
8. Write a note on
  - a) Ethnobotany
  - b) Embelica officinalis
  - c) Development of Herbal drugs

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## FACULTY OF PHARMACY

M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main & Backlog) Examination,  
October 2020

## Subject: Advanced Pharmacognosy-II

Time: 2 Hours

Max. Marks: 75

Note : Answer any Three questions

(3 x 25=75 Marks)

- 1 List the herbal drugs used and screening techniques for evaluation of anti diabetic activity.
- 2 Write the chemistry of
  - (a) Coleus forskholii
  - (b) Andrographis paniculata
  - (c) Boswellia Serata
- 3 Discuss the reasons for adulteration of herbal drugs. Write about the methods and measures for detection of adulteration
- 4 Describe the chemistry and analytical profile of curcuma longa.
- 5 Give an informative note on herbal drugs belonging to the category of
  - (a) Anticancer drugs
  - (b) Wound healing Drugs
  - (c) Antioxidant drugs
- 6
  - (a) Describe the importance of antifertility drugs. Describe any four in vivo antifertility screening techniques.
  - (b) Write a note on herbal drugs used in treatment of users.
- 7 Give an informative note on
  - (a) DNA finger printing
  - (b) Detection heavy metals
  - (c) Detection of microbial contamination.
- 8 Write about
  - (a) Pharmacokinetic issues of herbal drugs.
  - (b) Methods of drug discovery

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main & Backlog) Examination,  
October 2020**

**Subject: Herbal Cosmetics**

**Time: 2 Hours**

**Max. Marks: 75**

**Note : Answer any Three questions**

**(3 x 25=75 Marks)**

- 1 Write in detail about regulatory provisions related to manufacture of cosmetics
- 2 (a) Define and classify herbal cosmetics with examples and write a note on industries involved in the production of herbal cosmetics  
(b) Write a brief note on herbal baby products.
- 3 (a) Write a note on some functional herbs used in cosmetics  
(b) Write about humectants, oils and colours used in the preparation of herbal cosmetics
- 4 (a) Explain the physiology and chemistry of skin and hair. Write the formulation of hair conditioners with examples.  
(b) Write the method of preparation of cleansing creams with examples.
- 5 Explain the formulation of herbal shampoos and herbal oils with examples.
- 6 (a) Explain the toxicity studies of hair dyes and depilatories as per Drugs and Cosmetics  
(b) Write a note on herbal fairness formulations
- 7 Explain the evaluation of lipsticks and creams
- 8 (a) What are dentifrices, write the formulation of herbal tooth pastes and mouthwashes with examples.  
(b) Write a brief note on cosmetics for nails

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main & Backlog)**

**Examination, October 2020**

**Subject : Indian System of Medicine**

**Time: 2 Hours**

**Max. Marks: 75**

**Note : Answer any Three questions**

**(3 x 25=75 Marks)**

1. a) Describe the fundamental concepts and principles of Ayurvedic system of medicines  
b) List the Ayurvedic formulation and give the method of preparation of any three
2. a) Give an informative note on treatment modalities of Naturopathy  
b) Outline the concepts and benefits of pranayama and meditation technique
- 3 Write about
  - a) (TKDL) - Traditional knowledge and Digital Library
  - b) (CCRS) – Central Council for Research is Siddha
  - c) Geographical indications
4. Discuss the importance, objectives and various components of Good manufacturing practice.
5. a) Write about the challenges in monitoring the safety of herbal medicines  
b) Write note on Unani system of medicine  
c) Describe the principle of Siddha system of medicine,
6. Write the importance of stability studies and methods to perform the stability studies of Herbal formulations
7. Outline the history, principles and formulations in Homeopathy system of medicine.
8. Write a note on
  - a) Problems in standardization of herbal drugs
  - b) Aromatherapy
  - c) AYUSH

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacognosy) II- Semester (PCI) (Suppl.) Examination,**  
**January 2020**

**Subject: Indian System of Medicine**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

- 1 Write about the traditional systems of medicines practiced in India. Describe the principles, concepts and different dosage forms of Unani system of medicine. 15
- 2 a) What are the concepts of Aromatherapy 5+5+5  
b) Geographical Indications  
c) CCRH
- 3 Describe the methods to determine the identity, purity and quality of crude drugs. 15
- 4 Define the various Ayurvedic formulations and explain the preparation of any four formulations. 15
- 5 Write the objective of GMP. Discuss about the infrastructural requirements, machinery, equipment, documents and records maintained in herbal industry. 15
- 6 Write about 5+5+5  
a) AYUSH  
b) CCRAS  
c) CCRH
- 7 a) Write about the document preparation for new drug application and export registration. 10+5  
b) Discuss challenges in monitoring the safety of herbal medicines.
- 8 Explain the methods of determining the stability studies and shelf life. 15

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Suppl.) Examination,  
January 2020**

**Subject: Medicinal plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 Write a note on synthetic seeds.
- 2 Write about :
  - a) Applications of Plant Biotechnology in Pharmacy.
  - b) Different methods of sterilization in plant tissue culture.
- 3 Differentiate Zygotic embryogenesis from Somatic embryogenesis and add a note on somatic embryogenesis.
- 4 Discuss the different techniques for Immobilization of plant cells and write their applications.
- 5 List out the various secondary metabolites produced using plant tissue culture and describe the production of any one of them in detail.
- 6 Write a note on Hairy Root culture.
- 7 Write short notes on
  - a) Molecular Pharmacognosy
  - b) Single cell protein
- 8 What are transgenic plants? Discuss the different methods of gene transfer in plants.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Suppl.) Examination,  
January 2020**

**Subject: Herbal Cosmetics**

**Time: 3 Hours**

**Max.Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 a) Define herbal cosmetics Write in brief about the regulatory provisions related to manufacture of cosmetics. 10  
b) Write in brief about analysis of nail enamels 5
- 2 Write about various raw materials used in preparation of herbal cosmetics with suitable examples. 15
- 3 a) Write about herbal face powders and face packs. 9  
b) Write about herbal bath products. 6
- 4 a) Explain about formulation of herbal hair oils and herbal conditioners with example. 10  
b) Write a note on anti-sunburn preparations. 5
- 5 a) Write the formulation of herbal cleansing and vanishing creams. 9  
b) Explain in brief about evaluation of creams. 6
- 6 a) What are tonics and bleaches? Write in brief about formulation of skin bleaches. 9  
b) Write a note on herbal deodorants. 6
- 7 Explain the formulation and evaluation of herbal lipsticks. 15
- 8 Write in detail about quality control tests of shaving preparations and cosmetic pencils. 15

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**FACULTY OF PHARMACY****M. Pharmacy (Pharmacognosy) II- Semester (PCI) (Supplementary) Examination,****January 2020****Subject: Advanced Pharmacognosy - II****Time: 3 Hours****Max Marks: 75****Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

- 1 Explain the role of antioxidants. List the *in vitro* evaluation techniques for antioxidants and describe any three methods in detail. 15
- 2 Write the chemistry and IP Monograph of *Coleus forskholii*. 15
- 3 Write note on: 3x5
  - a) DNA Finger printing techniques
  - b) Detections of heavy metals
  - c) Chemistry and Estimation of Curcumin
- 4 Describe the role of herbal drugs in the treatment of diabetes. Explain any two methods of *in vivo* anti diabetic screening techniques. 15
- 5 Define adulteration, substitution and deterioration. Write about the sampling procedure, determination of foreign matter and microbial contamination in herbs. 15
- 6 Give an informative note on 3x5
  - a) Pharmacokinetics of herbal drugs
  - b) Ethno pharmacology
  - c) Ethno botany.
- 7 a) Write about the methods of toxicity studies as per OECD guidelines. 6+9  
b) Describe any two *in vivo* antiinflammatory screening techniques.
8. a) Write about the efficacy of herbal drugs with respect to modern medicine. 6+9  
b) Write about screening technique for Hepatoprotective activity.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Main) Examination, Aug 2019**

**Subject: Medicinal Plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Write a note on DNA recombinant technology
2. Write short notes on
  - a) Genetic code
  - b) Biotransformation using plant cells
3. Write a note on Hairy Root culture
4. Write short notes on
  - a) Production of Ergot alkaloids
  - b) Different types of Bioreactors used in plant cell culture
5. Write short notes on
  - a) Molecular Pharmacognosy
  - b) Applications of PCR in plant genome analysis
6. What is Micropropagation? Discuss the various steps involved in micropropagation. of medicinal plants and discuss their advantages and disadvantages.
7. What is plant cell Immobilization. Describe the various methods of plant cell immobilization and discuss their advantages and disadvantages.
8. What are transgenic plants. Discuss the principle, procedure, advantages and disadvantages of any four direct gene transfer techniques.

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**FACULTY OF PHARMACY****M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Main) Examination,****August 2019****Subject: Herbal Cosmetics****Time: 3 Hours****Max.Marks: 75****Note: Answer any five questions. All questions carry equal marks.**

- 1 a) Define and classify herbal cosmetics with examples and write a note on industries involved in the production of herbal cosmetics. 9  
b) Write a brief note on cosmetics for nails. 6
- 2 Write in detail about regulatory provisions related to manufacture of cosmetics. 15
- 3 a) Write about surfactants, humectants used in the preparation of herbal cosmetics. 9  
b). Write a note on some functional herbs used in cosmetics. 6
- 4 a) Explain the physiology and chemistry of skin and hair. Write the formulation of hair tonics with examples. 10  
b) Write the method of preparation of cleansing creams with examples. 5
- 5 Explain about formulation of herbal shampoos and herbal oils with examples. 15
- 6 a) Explain the toxicity studies of hair dyes and depilatories as per Drugs and Cosmetics Act . 10  
b) Write a note on herbal fairness formulations 5
- 7 a) What are dentifrices, write the preparation of tooth pastes and mouthwashes with examples. 10  
b) Write a brief note on herbal baby products. 5
- 8 Explain the evaluation of lipsticks and creams. 15

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**FACULTY OF PHARMACY****M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Main) Examination,****August 2019****Subject: Indian System of Medicine****Time: 3 Hours****Max.Marks: 75****Note: Answer any five questions. All questions carry equal marks.**

- 1 Define the various Ayurvedic formulations. Explain the preparation of any four preparations. 15
- 2 Give an informative note on:
  - a) Ayurvedic Pharmacopoeia 5
  - b) Basic principles of naturopathy 5
  - c) TKDL. 5
- 3 Discuss the history of homoeopathy. Explain the fundamental principles of homeopathy. 15
- 4 Define quality control, quality assurance, TQM. Discuss the GMP of ISM formulation industry. 15
- 5 Write about
  - a) Geographical indications 5
  - b) AYUSH 5
  - c) CCRU 5
- 6 Write the history, concepts and principles of Ayurvedic Pharmacopeia. 15
- 7 Discuss the problems in standardization of Ayurvedic formulations. Write the methods of analysis of herbal drugs with reference to identity, purity and quality.
- 8
  - a) Write about the challenges in monitoring the safety of herbal medicines. 5
  - b) Write note on Unani system of medicine 5
  - c) Principles of Siddha system of medicine. 5

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II – Semester (PCI) (Main) Examination, Aug. 2019**

**Subject: Advanced Pharmacognosy - II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. Discuss the reasons for adulteration of herbal drugs. Write about the methods and measures for detection of adulteration. 15M
2. Write about 5+5+5M
  - a) Chemistry of forskolii
  - b) Estimation of Curcumin
  - c) Ethno pharmacology
3. Discuss the role of herbal medicine in prevention of cancer. Explain any two in vivo anti cancer techniques. 15M
4. Describe the role of herbal drugs in the treatment of diabetes. Explain any two methods of in vivo anti diabetic screening techniques. 15M
5. Give an informative note on 5+5+5M
  - a) DNA finger printing
  - b) Detection of heavy metals
  - c) Detection of microbial contamination.
6. a) Discuss the role of herbal drugs as antifertility agents 6+9M  
b) Discuss Toxicity studies as per OECD guide lines.
7. a) Write about pharmacokinetics issues related to herbal medicines. 8+7M  
b) Discuss Efficacy of herbal medicine with respect to modern medicine.
8. Write the chemistry of Boswellia serata and give the complete analytical profile as IP or AP. 15M

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CODE NO: 13178/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Suppl.) Examination,  
February 2019**

**Subject: Herbal Cosmetics**

**Time : 3 Hours**

**Max. Marks: 75**

**Note: Answer Any Five Questions. All Questions Carry Equal marks**

1. Write the regulatory provisions related to manufacture of cosmetics 15
2. a) Define herbal cosmetics and write a note on industries involved in the production of herbal cosmetics.  
b) Discuss about possible interactions between chemicals and herbs 7
3. Write about surfactants, humectants and colours used in the preparation of herbal cosmetics 15
4. a) Explain the physiology and chemistry of hair and lips. Write the formulation of Lipstick with example 10  
b) Write a brief note on cosmetics for nails 5
5. Write in detail about the quality control tests of shaving preparations and cosmetic Pencils 15
6. a) What are anti-sunburn preparations write their formulation with examples 8  
b) Explain the sensitivity testing of lipsticks and hair dyes 7
7. What are tonics and bleaches. Write in detail about preparation and standardization of hair and skin bleaches 15
8. Write the formulation and evaluation of herbal hair oils and deodorants 15

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Suppl.) Examination,  
February 2019**

**Subject: INDIAN SYSTEM OF MEDICINE**

**Time: 3 Hours**

**Max Marks:75**

**Note: Answer any five Questions. All Questions Carry Equal Marks.**

1. a) Write the History, concepts, principles of Ayurvedic system of medicine.  
b) List the Ayurvedic formulations and give the preparation of any three. 8+7
2. Give an informative note on 7+7
  - a) Aromatherapy
  - b) Yoga.
3. Write the history, concepts and explain the principles of Homeopathy system of medicine. 15
4. a) Write the basic principle and treatment modalities of Naturopathy. 8+7  
b) Write a note on stability studies of ISM formulation.
5. Give an informative note on 5+5+5
  - a) TKDL
  - b) AYUSH
  - c) Safety of herbal medicine.
6. Explain the objectives of GMP. Discuss the Infrastructural requirements, machinery, equipment, and documents and records to be maintained in Herbal Industry. 15
7. a) Describe the preparation of document for new drug applications. 9+6  
b) Describe the challenges in export of Herbal medicine.
8. a) Write the objective and role of ISM and CCRAS. 10+5  
b) Write a note on Siddha system of medicine.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI)(Suppl.) Examination,  
February 2019**

**Subject: Medicinal Plant Biotechnology**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- |   |   |    |
|---|---|----|
| 1 | Write a note on hairy root culture.   | 15 |
| 2 | Discuss the following   |    |
|   | a) Micropropagation   | 9  |
|   | b) Elicitors  | 6  |
| 3 | a) Explain Production of ergot alkaloids                                      | 6  |
|   | b) Write about Synthetic seeds  | 9  |
| 4 | a) Discuss the different techniques involved in immobilization of plant cells | 9  |
|   | b) Write a short note on protoplast fusion.                                   | 6  |
| 5 | a) Write about liposome mediated gene transfer in plants.                     | 10 |
|   | b) Write the applications of PCR in plant genome analysis.                    | 5  |
| 6 | a) Discuss Recombinant DNA technology   | 8  |
|   | b) Write about genetic and molecular biology as applied to pharmacognosy.     | 7  |
| 7 | Write a note on   |    |
|   | a) Genetic code   | 5  |
|   | b) Somoclonal variation   | 10 |
| 8 | Write the source, production and applications of                              |    |
|   | a) Amylase                      b) Papain                      c) Peroxidase. | 15 |

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacognosy) II-Semester (PCI)(Suppl.) Examination, February 2019**

**Subject: ADVANCED PHARMACOGNOSY-II**

**Time: 3 Hours**

**Max. Marks : 75**

**Note: Answer any five Questions. All Questions Carry Equal Marks.**

1. Write the role of plants in treatment of cancer. Explain any three screening methods for evaluation of anticancer activity. 15
2. Define the terms with examples adulteration, substitution and misbranded drugs. Write the causes, type and methods of detection of adulteration. 15
3. a) Write the IP monograph of *Andrographis paniculata*. 9+6  
b) DNA finger printing of technique in identity of crude drugs.
4. a) Give an informative note on methods of drug discovery. 9+6  
b) Determination of microbial contamination.
5. Discuss about the herbal drugs used in treatment of cardiac diseases. Describe any three in vivo screening techniques for cardio protective action. 15
6. a) Write the economic importance of antifertility agents and discuss the role of herbal drugs. 7+8  
b) Discuss any three methods of antifertility screening methods.
7. a) Give an informative note on pharmacokinetic studies. 8+7  
b) Write a note on disadvantages of heavy metals and methods to detect the heavy metals.
8. Write a note on 5+5+5
  - a) New strategies in natural products.
  - b) OECD guidelines.
  - c) Validation of herbal therapies.

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FACULTY OF PHARMACY

M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main) Examination,

August 2018

Subject: Medicinal plant Biotechnology

Time: 3 Hours

Max. Marks: 75

**Note: Answer any five questions. All questions carry equal marks.**

1. Write a note on
  - a) Genetic Code 5M
  - b) Application of transgenic plants with examples 10M
  
2. Discuss the following with examples
  - a) Synthetic seeds 10M
  - b) Sterilization techniques involved in plant tissue culture 5M
  
3. a) Differentiate organogenesis from embryogenesis and add a note on embryogenesis 12M  
b) Elaborate on various Precursors used in production of secondary metabolites 3M
  
4. Write a note on hairy root culture. 15M
  
5. a) Explain the production of ergot alkaloids 7M  
b) Write the application of PCR in plant genome analysis. 8M
  
6. Define immobilization and discuss the advantages, disadvantages and different methods of immobilization techniques. Write the applications of immobilization 15M
  
7. a) Discuss about different types of bioreactions used for plant cell culture. 10M  
b) Write a short note on molecular pharmacognosy 5M
  
8. Discuss the different methods of direct gene transfer in plants. 15M

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## FACULTY OF PHARMACY

M. Pharmacy (Pharmacognosy) II-Sem. (PCI)(Main) Examination, August 2018

Subject: Advanced Pharmacognosy-II

Time: 3 Hours

Max. Marks : 75

**Note: Answer any five Questions. All Questions Carry Equal Marks.**

1. Define the terms adulteration, substitution and misbranded drugs. Write the causes, types and methods to detect the adulterations. 15
2. Write the sources, chemistry, pharmacology and mechanism of action of Forskholii and Psoralea. 15
3. List the methods for screening of antidiabetic activity and explain the any three methods. Write a note on herbal drugs used in antidiabetic activity. 15
4. What are antioxidants and write the role of antioxidants in biological system. Write the principle and procedures of five in vitro antioxidant techniques. 15
5. a) Explain the need of phyto pharmacological screening. 5+5+5  
b) Write the method of detecting heavy metals.  
c) What is the role of Ethnopharmacology.
6. Write a note on  
a) OECD guidelines. 5+5+5  
b) Validation of herbal therapies.  
c) Advantages and disadvantages of herbal drugs vs conventional drugs.
7. Write about 5+5+5  
a) DNA finger printing  
b) Detection of pesticide residue.  
c) Determination of microbial contamination.
8. Write a note on :  
a) Chemistry of Andrographis paniculata 5+5+5  
b) Cultivation and collection of curcuma long a  
c) Methods of Drug discovery.

## FACULTY OF PHARMACY

M.Pharmacy (Pharmacognosy) II-Semester(PCI) Main Examination,

August 2018

Subject: Herbal Cosmetics

Time: 3 Hours

Max. Marks: 75

**Note: Answer Any Five Questions. All Questions Carry Equal marks**

1. a) Define and classify herbal cosmetics with examples and write a note on some functional herbs used in herbal cosmetics 8  
b) Write in brief about analysis of nail enamels 7
2. Write about various raw materials used in preparation of herbal cosmetics with suitable examples 15
3. Explain the physiology and chemistry of skin and write the formulation of herbal cleansing cream and vanishing cream with suitable examples 15
4. a) Write the formulation and evaluation of herbal shampoos 10  
b) Write a note on herbal fairness formulations 5
5. a) Explain the toxicity studies of hair dyes and depilatories as per Drugs and Cosmetics act 9  
b) Write in brief about quality control of lipsticks 6
6. What are dentifrices. Write the preparation and standardisation of herbal mouth washes and tooth pastes 15
7. Write in detail about herbal bath products and herbal baby products 15
8. a) Write about various raw materials in herbal face packs and face powders and write the evaluation of face powders. 10  
b) Write a brief note on hair bleaches. 5

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## FACULTY OF PHARMACY

M. Pharmacy (Pharmacognosy) II-Semester (PCI)(Main) Examination,

August 2018

Subject: INDIAN SYSTEM OF MEDICINE

Time: 3 Hours

Max marks: 75

**Note: Answer any five Questions. All Questions Carry Equal Marks.**

1. a) Describe the concepts of yoga, meditation and relaxation techniques.  
b) Write a note on aroma oils used in common problems. 10+5
2. List the Ayurvedic formulations and explain techniques of preparation of any three formulations. 15
3. a) Explain the principles of Homeopathy systems of medicine. 9+6  
b) Write a note on stability studies of ISM formulations.
4. Write the objective and functions AYUSH, CCRAS and CCRU. 15
5. a) Describe the document preparation for new drug application. 10+5  
b) Write a note on TKDL.
6. Explain the objectives of GMP. Discuss the Infrastructural requirements, machinery, equipment, and documents and records to be maintained in Herbal Industry. 15
7. Write about 4+4+7  
a) Treatment modalities of Naturopathy.  
b) Ayurvedic Pharmacopeia.  
c) Unani system of Medicine.
8. Describe the challenges in analysis of Herbal drugs and discuss the methods for evaluation for identity, purity and quality of herbal drugs. 15

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## FACULTY OF PHARMACY

M. Pharmacy (Pharmacognosy) II-Semester (PCI) (Main) Examination,

August 2018

Subject: Medicinal plant Biotechnology

Time: 3 Hours

Max. Marks: 75

**Note: Answer any five questions. All questions carry equal marks.**

1. Write a note on
  - a) Genetic Code 5M
  - b) Application of transgenic plants with examples 10M
2. Discuss the following with examples
  - a) Synthetic seeds 10M
  - b) Sterilization techniques involved in plant tissue culture 5M
3. a) Differentiate organogenesis from embryogenesis and add a note on embryogenesis 12M  
b) Elaborate on various Precursors used in production of secondary metabolites 3M
4. Write a note on hairy root culture. 15M
5. a) Explain the production of ergot alkaloids 7M  
b) Write the application of PCR in plant genome analysis. 8M
6. Define immobilization and discuss the advantages, disadvantages and different methods of immobilization techniques. Write the applications of immobilization 15M
7. a) Discuss about different types of bioreactions used for plant cell culture. 10M  
b) Write a short note on molecular pharmacognosy 5M
8. Discuss the different methods of direct gene transfer in plants. 15M

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