



**G. PULLA REDDY COLLEGE OF PHARMACY
AUTONOMOUS**

Affiliated to **Osmania University** Approved by **PCI** & Accredited by **NAAC**
Mehdipatnam, Hyderabad - 500028. Telangana State.

M. PHARM SECOND SEMESTER (PCI) REGULAR EXAMINATIONS, OCT- 2026

Branch: PHARMACEUTICAL ANALYSIS

Subject: HERBAL AND COSMETIC ANALYSIS

QP Code: MPAII04TE26

Time: 03 Hours

Max Marks: 75

Note: Answer Any **FIVE** Questions.

5 X 15 = 75M

S. No	Questions
1	a) Compare herbal medicines with conventional drugs with respect to their general characteristics. (5M) b) Discuss the efficacy of herbal medicine products. (5M) c) Describe the pharmacodynamics issues associated with herbal medicines. (5M)
2	a) Explain substitution as a form of adulteration of herbal drugs. (5M) b) Discuss the major causes of adulteration of herbal drugs. (5M) c) Discuss the application of Indian patent law to herbal drugs and natural products. (5M)
3	a) Explain the regulatory requirements applicable to herbal drugs. (5M) b) Discuss the quality requirements specified in the Ayurvedic Pharmacopoeia for herbal drugs. (5M) c) Explain the monograph requirements of the British Herbal Pharmacopoeia for herbal drugs. (5M)
4	a) Explain the AYUSH guidelines for safety monitoring of natural medicines. (5M) b) Explain herbal drug-drug interactions with suitable examples. (5M) c) Analyze the major challenges in monitoring the safety of herbal medicines. (5M)
5	a) Explain the general methods of analysis of raw materials used in cosmetics manufacturing as per BIS. (8M) b) Discuss the importance and determination of acid value, saponification value, iodine value, and peroxide value in analysis of oils. (7M)
6	a) Explain the significance of heavy-metal contamination in herbal formulations. (5M) b) Discuss the monograph requirements of the United States Pharmacopeia for herbal drugs. (5M) c) Determination of the moisture content of cosmetic raw materials and finished products. (5M)
7	a) Explain microbial contamination in herbal formulations and its relevance to quality assessment. (5M) b) Discuss the requirements of the Siddha and Unani Pharmacopoeia for herbal drugs. (5M) c) Write the procedure for determination of the volatile matter in cosmetic raw materials or finished products. (5M)
8	a) Discuss global marketing management requirements applicable to herbal drugs and natural products. (5M) b) Describe the requirements for proper dispensing of herbal drugs. (5M) c) Determination of heavy metals in cosmetic raw materials or finished products. (5M)



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M. PHARM SECOND SEMESTER (PCI) REGULAR EXAMINATIONS, OCT- 2026

Branch: PHARMACEUTICAL ANALYSIS

Subject: QUALITY CONTROL AND QUALITY ASSURANCE

QP Code: MPAPII03TE26

Time: 03 Hours

Max Marks: 75

Note: Answer Any **FIVE** Questions.

5 X 15 = 75M

S. No	Questions
1	(a) Explain about Quality control and Quality assurance. (b) Write in detail about ICH Q series guidelines.
2	(a) Explain the controls on environmental pollution. (b) Explain the maintenance of sterile areas.
3	Explain in detail IPQC tests for Tablets and Parenteral.
4	Describe the quality control tests for containers, closures and secondary packing materials.
5	(a) Explain Quality audit plan. (b) Explain Master formula and Batch formula records.
6	Discuss Good laboratory practices for a quality control laboratory in detail.
7	(a) Describe the onsite sanitation and manufacturing premises. (b) Explain Aseptic process control.
8	Discuss regulatory documentation and submission requirement including Day master files and electronic common technical documents



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M. PHARM SECOND SEMESTER (PCI) REGULAR EXAMINATIONS, OCT- 2026

Branch: PHARMACEUTICAL ANALYSIS
Subject: MODERN BIO-ANALYTICAL TECHNIQUES

QP Code: MPAII02TE26

Time: 03 Hours

Max Marks: 75

Note: Answer Any **FIVE** Questions.

5 X 15 = 75M

S. No	Questions
1	A) Explain bioanalytical validation as per EMEA guidelines (7M) B) Write the general principles and procedures involved in extraction of drugs from biological matrices by solid phase extraction.(8M)
2	A) Explain different types of PK-PD drug interactions (3) with suitable examples (8M) B) Justify the importance and application of toxicokinetic studies. (7M)
3	A)Discuss about CYP450 based drug interactions (7M) B) Explain biopharmaceutical factors affecting drug bioavailability (8M)
4	A) Explain the principle and applications of flow cytometry. (7M) B) Write about cryopreservation and storage of drugs (8M)
5	A) Explain the principle and applications of cell viability assays. (9M) B) Write about human and rat liver microsomes (6M)
6	A) Write about different approaches of identification of metabolites. (9M) B) Explain the clinical significance of bioequivalence studies. (6M)
7	A) Write about different cell culture media and explain basic equipment used in cell culture lab. (7M) B) Differentiate relative and absolute bioavailability with examples and describe different methods for assessment of Bioavailability. (8M)
8	Discuss about designs and evaluation methods of bioequivalence studies (15M)



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M. PHARM SECOND SEMESTER (PCI) REGULAR EXAMINATIONS, OCT- 2026

Branch: PHARMACEUTICAL ANALYSIS

Subject: ADVANCED INSTRUMENTAL ANALYSIS

QP Code: MPAII01TE26

Time: 03 Hours

Max Marks: 75

Note: Answer Any **FIVE** Questions.

5 X 15 = 75M

S. No	Questions
1	Evaluate the (N + 1) rule for splitting in NMR spectroscopy, providing an example and discussing any exceptions to the rule. Draw a diagram to illustrate the concept. Contrast the different relaxation mechanisms in NMR spectroscopy and explain their significance. Support your answer with a neat, labelled illustration?
2	Explain the following a. Principles and Instrumentation of size exclusion chromatography. 8M b. Different modes of capillary electrophoresis. 7M
3	Outline the principle and general instrumentation of HPLC with a neat diagram. Discuss different factors affecting resolution of peaks in HPLC with specific examples
4	a. Write the principles and experimental details of HPTLC technique. 8M b. Write the principles head space sampling and columns used in Gas chromatography. 7M
5	Enumerate and compare different ionisation techniques employed in MS highlighting their strength and limitations?
6	a. Describe the different steps involved in HPLC method development. 9M b. Give the principles of the following hyphenated techniques. 6M i. LC-MS ii. LC-NMR iii. CE-MS
7	a. Write short notes on 2D NMR technique. 7M b. Explain the detail about chiral stationary phases. 8M
8	a. Explain the fragmentation patterns of i. Alcohols ii. Aldehydes iii. Aliphatic acids b. Describe the QqQ and ToF-ToF Tandem Mass spectrometry systems. 9M