

**ADICHUNCHANAGIRI UNIVERSITY**

**M.Pharmacy II Semester Examination – December 2021**

**TIME: 3 HOURS**

**MAX.MARKS: 75 MARKS**

**Sub: Advanced Instrumental Analysis**

**Q P Code: - 40201**

- INSTRUCTIONS:**
1. Your answer should be specific to the questions asked.
  2. Write legibly.
  3. Write the same question numbers as they appear in this question paper.
  4. Draw neat labelled diagrams wherever necessary.

**Long essay (answer any three)**

**3X10=30**

- 1 Write the Principle, instrumentation involved in HPLC
- 2 What is the fundamental principles and theory of NMR spectroscopy
- 3 Explain Shielding and Deshielding of protons giving suitable examples.
- 4 Explain (DTA) Differential Thermal Analysis technique and its applications

**Short essays (answer any nine)**

**9X5=45**

- 5 Write a note on Metastable ions in Mass spectroscopy
- 6 Write brief note on the uses of solvents in the NMR spectrophotometer
- 7 Explain the process of Fragmentation Amines and Alcohols in Mass spectroscopy
- 8 What is TGA Give its principle
- 9 Explain Mc-Lafferty rearrangement
- 10 Explain detail about LC-MS
- 11 Briefly discuss on Circular dichroism
- 12 Explain Principle and different methods of RIA?
- 13 Explain Ring rule and isotope peak with suitable examples
- 14 Write a note on principle, instrumentation of ICP-MS

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**M.Pharmacy II Semester Examination – December 2021**

**TIME: 3 HOURS**

**MAX.MARKS: 75 MARKS**

**Sub: Modern Bio-Analytical Techniques**

**Q P Code: - 40202**

- INSTRUCTIONS:** 1. Your answer should be specific to the questions asked.  
2. Write legibly.  
3. Write the same question numbers as they appear in this question paper.  
4. Draw neat labelled diagrams wherever necessary.

**Long essay (answer any three)**

**3X10=30**

- 1 Describe in detail maintenance of records in BA/BE studies.
- 2 Explain the principle and procedure involved in the solid phase Extraction of biological fluids.
- 3 Explain agarose gel electrophoresis with neat diagram.
- 4 Explain the good clinical practice guidelines.

**Short essays (answer any nine)**

**9X5=45**

- 5 What are the facilities required to conduct BA/BE studies.
- 6 What are the goals and objectives of GCP.
- 7 Explain the merits and demerits of SPE sorbents.
- 8 Write a note on SPE sorbents.
- 9 Explain Protein precipitation involved in Bio-Analytical Method.
- 10 Briefly explain the factors affecting the separation of biomolecules by gel electrophoresis.
- 11 Write the principle involved in the liquid extraction.
- 12 Explain the sample collection methods for different biological systems.
- 13 Explain briefly the documentation of GCP practice.
- 14 What is biological media? Write the properties of biological media.

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**ADICHUNCHANAGIRI UNIVERSITY**

**M.Pharmacy II Semester Examination – December 2021**

**TIME: 3 HOURS**

**MAX.MARKS: 75 MARKS**

**Sub: Quality Control and Quality Assurance**

**Q P Code: - 40203**

**INSTRUCTIONS:** 1. Your answer should be specific to the questions asked.  
2. Write legibly.  
3. Write the same question numbers as they appear in this question paper.  
4. Draw neat labelled diagrams wherever necessary.

**Long essay (answer any three)**

**3X10=30**

- 1 Discuss the concept and evaluation of quality control and quality assurance in pharmaceutical industries.
- 2 Define Patent. Explain patent enforcement according to patent regime and IPR.
- 3 Explain about three tier documentation, work instructions and policy principles in pharmaceutical industries.
- 4 Explain the quality control tests for containers, closures and secondary packaging materials.

**Short essays (answer any nine)**

**9X5=45**

- 5 Explain CPCSEA guidelines.
- 6 Write on protocol for conduct of non-clinical testing.
- 7 List out and discuss the responsibilities of quality control department.
- 8 Explain methods involved in the control on animal house.
- 9 Write the ICH Q6 and Q3 guidelines.
- 10 Discuss NABL certification and its importance.
- 11 Explain Batch Formula Record.
- 12 Explain expiry date calculation and change control.
- 13 Write quality control analysis of ophthalmic preparations as per IP and USP.
- 14 Write on Standard Operating Procedures and its implementation in pharmaceutical industries.

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**ADICHUNCHANAGIRI UNIVERSITY**

M.Pharmacy II Semester Examination – December 2021

**TIME: 3 HOURS**

**MAX.MARKS: 75 MARKS**

**Sub: Cosmetic Analysis and Evaluation**

**Q P Code: - 40204**

**INSTRUCTIONS:** 1. Your answer should be specific to the questions asked.  
2. Write legibly.  
3. Write the same question numbers as they appear in this question paper.  
4. Draw neat labelled diagrams wherever necessary.

**Long essay (answer any three)**

**3X10=30**

- 1 Explain in detail about quality testing of hair conditioners and preservatives.
- 2 Discuss performance evaluation of Deodorants and Foam Baths.
- 3 Give principle, instrumentation and applications of any two equipments used in measurement of cosmetic product performance.
- 4 Explain the principle and procedure for determination of Iodine value and Peroxide value and give its significance.

**Short essays (answer any nine)**

**9X5=45**

- 5 List out evaluation methods for hair products and explain them.
- 6 Discuss the rheology modifiers used in preparation of cosmetics.
- 7 Define shampoos and sunscreen preparations. Discuss on performance evaluation of sunscreen preparations.
- 8 Write on hair tensile properties.
- 9 Discuss sampling methods and quality analysis of any one raw material used in cosmetics as per BIS.
- 10 Write on quality of raw materials used in cosmetics.
- 11 Define and discuss rancidity and acid value.
- 12 Define cosmetics, moisture content, ash, ester value and saponification value.
- 13 Give the formula for calculation of ester value, acid value and give its significance.
- 14 Write a note on fineness of powder and viscosity determination.

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**ADICHUNCHANAGIRI UNIVERSITY**

**M.Pharm II Semester Examination – October 2020**

**TIME: 2 Hours**

**MAX.MARKS: 40**

**SUB: Advanced Instrumental Analysis**

**QP CODE: 40201**

**Specific Instructions**

1. Answer One Question from **Long Essay** (Each question carries 10 Marks).
2. Answer Six Questions from **Short Essay** (Each question carries 5 Marks).
3. Write the Question followed by Answer.
4. Write the same question numbers as they appear in this question paper.
5. Your answer should be specific to the questions asked.
6. Draw neat labelled diagrams wherever necessary.

**Long Essay: Answer any One**

**1X10=10**

1. Explain Woodward – Fieser rule and assign the for butadienes and carbonyl compounds
2. Explain instrumentation and application differential scanning calorimetry

**Short Essay: Answer any Six**

**6X5=30**

3. Describe flash chromatography with applications
4. Explain Mass fragmentation rules for amines with examples
5. Write a note on Thermo Graphic Analysis (TGA)
6. Explain the mechanism of Ion-Exclusion Chromatography
7. Write the principle and applications of HPTLC
8. What is Mc Lafferty Rearrangement? Give examples
9. Write the importance of single bond and double bond region of organic compounds in IR spectroscopy.
10. What are different types ions produced in mass spectrometry?

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**ADICHUNCHANAGIRI UNIVERSITY**

**M.Pharm II Semester Examination – October 2020**

**TIME: 2 Hours**

**MAX.MARKS: 40**

**SUB: Cosmetic Analysis and Evaluation**

**QP CODE: 40204**

**Specific Instructions**

1. Answer One Question from **Long Essay** (Each question carries 10 Marks).
2. Answer Six Questions from **Short Essay** (Each question carries 5 Marks).
3. Write the Question followed by Answer.
4. Write the same question numbers as they appear in this question paper.
5. Your answer should be specific to the questions asked.
6. Draw neat labelled diagrams wherever necessary.

**Long Essay: Answer any One**

**1X10=10**

1. Explain the significance of acid, saponification, peroxide values and moisture content determination for vegetable oils.
2. Explain the evaluation of abrasiveness of Dentrifices and Dentrifice ingredients in detail.

**Short Essay: Answer any Six**

**6X5=30**

3. Explain the principle and a brief procedure for the determination of heavy metals in raw materials.
4. Explain the evaluation parameters for baby care powders in brief.
5. Explain the breaking point test, softening point test for the evaluation of lipsticks.
6. How the trans-epidermal water loss test is performed? What is its use?
7. List the uses of Sebumeter.
8. Explain the stages of analyzing fragrances used in cosmetics.
9. Write a note on tests for preservative effectiveness of preservatives.
10. Explain the viscosity measuring methods for cosmetic preparation in brief.

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**M.Pharm II Semester Examination – October 2020**

**TIME: 2 Hours**

**MAX.MARKS: 40**

**SUB: Modern Bio-Analytical Techniques**

**QP CODE: 40202**

**Specific Instructions**

1. Answer One Question from **Long Essay** (Each question carries 10 Marks).
2. Answer Six Questions from **Short Essay** (Each question carries 5 Marks).
3. Write the Question followed by Answer.
4. Write the same question numbers as they appear in this question paper.
5. Your answer should be specific to the questions asked.
6. Draw neat labelled diagrams wherever necessary.

**Long Essay: Answer any One**

**1X10=10**

1. Write the general principle and procedure involved in the bio-analytical methods with emphasizing on liquid and solid phase extraction methods.
2. Describe the requirement and guidelines for Good clinical Practice (GCP)

**Short Essay: Answer any Six**

**6X5=30**

3. Explain protein precipitation method in Bioanalysis of drugs
4. Role of HPLC in the characterization of biomolecules
5. Explain the concept of prodrug and its role in the metabolism of the drug
6. Explain documentation of Good Clinical Practice
7. What are drug metabolites? Explain the methods for the determination of metabolites
8. Explain USFDA guidelines for orally administered drug products
9. Explain the role of gel electrophoresis in the separation of bio-molecules
10. What are the properties of the biological media?

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**ADICHUNCHANAGIRI UNIVERSITY**

**M.Pharm II Semester Examination – October 2020**

**TIME: 2 Hours**

**MAX.MARKS: 40**

**SUB: Quality Control and Quality Assurance**

**QP CODE: 40203**

**Specific Instructions**

1. Answer One Question from **Long Essay** (Each question carries 10 Marks).
2. Answer Six Questions from **Short Essay** (Each question carries 5 Marks).
3. Write the Question followed by Answer.
4. Write the same question numbers as they appear in this question paper.
5. Your answer should be specific to the questions asked.
6. Draw neat labelled diagrams wherever necessary.

**Long Essay: Answer any One**

**1X10=10**

1. Describe layout of a typical pilot plant
2. Explain the different "Indian pharmacopoeial" quality control test for ophthalmic and surgical products

**Short Essay: Answer any Six**

**6X5=30**

3. Briefly explain IPR and patent regime
4. Write a note on expiry date calculation
5. Give an account of protocols to be adapted while conducting non-clinical tests
6. How will you control and maintain contaminations in sterile areas?
7. Explain various ICH guidelines with respects to QSEM
8. Explain in detail the concept of NABL accreditation and certification
9. Explain the different quality control test for cream
10. Throw a light on ICH guidelines in quality assurance of pharmaceutical industry

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