

THE TAMIL NADU Dr.M.G.R. MEDICAL UNIVERSITY

(LQ 2052)

MARCH 2020

Sub. Code: 2052

**B.PHARM. DEGREE EXAMINATION
PCI Regulation – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY – I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Give an account of the Physico-chemical characteristics of drugs in Preformulation studies and explain its importance.
2. Explain the types, formulation and evaluation of both suspensions and emulsions.
3. Define parenteral products with examples. Write the formulation considerations, method of preparation, labeling procedures and evaluation of eye drops.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Quality control tests for capsules.
2. Formulation of lyophilized sterile products.
3. Packaging materials used in pharmaceutical preparations.
4. Ideal properties of shampoo.
5. Preparation of cold cream.
6. Types of aerosol systems.
7. Pellets.
8. BCS classification and its importance.
9. Coating materials.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Methods of coating.
2. Stability of dosage forms.
3. Organoleptic additives.
4. Sizes of hard gelatin capsules.
5. Composition and uses of syrup.
6. Preservatives used in sterile preparations.
7. Composition of lipsticks.
8. Alu-Alu pack.
9. Define aerosols.
10. Inert gases.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921]

**SEPTEMBER 2021
(SEPTEMBER 2020 EXAM SESSION)**

Sub. Code: 2052

**B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY – I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Explain about the production of hard gelatin capsule.
2. Write in detail about the manufacturing defects of tablets.
3. Describe the quality control test to be carried out for pharmaceutical aerosols.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Sugar coating process.
2. Physical factors of drug that affect stability of dosage form.
3. Define pyrogens. Describe pyrogen test.
4. Wet granulation Method and its limitations.
5. Define a dosage form. Give the classification of dosage form.
6. Explain the different additives used in parenteral formulations.
7. Shampoo.
8. Syrups.
9. Explain the identification tests for emulsion type.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Slugging.
2. Importance of tablet coating.
3. Organoleptic additives.
4. Types of aerosol systems.
5. Name the enteric coated polymers.
6. Labeling method of eye preparations.
7. Diluents.
8. Components of a rotary punching machine
9. Types of stability studies.
10. Importance of hardness test on tablet.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0122]

**JANUARY 2022
(MARCH 2021 EXAM SESSION)**

Sub. Code: 2052

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V

PAPER II – INDUSTRIAL PHARMACY – I

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Define tablet, classify them. Describe in detail about excipient used and evaluation tests for tablets.
2. Explain the production procedures and production facilities of aseptic processing in the formulation of Injectables.
3. Explain the production of hard gelatin capsules and filing, finishing and quality control tests.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Physical properties of drugs in preformulation studies.
2. Sterilization procedures of large volume parenterals (LVP).
3. Types of packaging material and its importance.
4. Tooth pastes.
5. Propellants used in pharmaceutical aerosols.
6. Coating of tablets and its application.
7. Additives used in Liquid dosage forms.
8. Formulation of eye drops.
9. Ideal properties of coating materials.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Bloom strength.
2. Types of suspensions.
3. Define Elixirs.
4. IPQC tests.
5. Diluents.
6. Aseptic conditions.
7. Polymorphism
8. Blister pack.
9. Valve assembly in aerosols.
10. Advantages of soft gelatin capsules.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0522]

**MAY 2022
(SEPTEMBER 2021 EXAM SESSION)**

Sub. Code: 2052

**B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY – I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Give an account of methods of coating of tablets. Explain the process of sugar coating and its pharmaceutical applications.
2. Define pharmaceutical aerosols. Discuss in detail about types, propellants used, formulation and evaluation of aerosols.
3. Explain the manufacturing, quality control tests, packing, storage and applications of soft gelatin capsules.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Film formers.
2. Application of preformulation considerations of solids.
3. Sterile powders.
4. Lipsticks.
5. Evaluation tests for tablets.
6. Small volume parenterals.
7. Chemical properties of preformulation studies.
8. Eye ointment.
9. Evaluation of suspension.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Non aqueous vehicle in parenterals.
2. Enteric coating.
3. Sunscreens.
4. Sizes and volumes of hard gelatin capsules.
5. Binders.
6. Isotonicity.
7. Flow properties.
8. Eye drops.
9. Application of creams.
10. LAL Test.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 1022]

**OCTOBER 2022
(MARCH 2022 EXAM SESSION)**

Sub. Code: 2052

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V

PAPER II – INDUSTRIAL PHARMACY – I

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Briefly explain the formulation methods and evaluation tests for shampoo.
2. Differentiate hard and soft gelatin capsules. Explain the method of manufacturing of soft gelatin capsule by rotary die process.
3. Explain the different types of glasses and plastics used in Pharma industry for storage of Pharmaceutical preparation.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Granulation methods for tablet dosage form.
2. Quality control tests for tablets.
3. Manufacturing of empty hard gelatin capsule shell.
4. Pan coating.
5. Numbering system used for propellants used in aerosols.
6. Sterility testing of parenteral products.
7. Cold cream.
8. Formulation of eye drops.
9. Evaluation of emulsion.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Importance of density in preformulation.
2. Superdisintegrants.
3. Razemisation.
4. Weight variation limits for tablets as per I.P.
5. Applications of aerosol.
6. LAL test.
7. Tamper resistant packaging.
8. Metered dose aerosols.
9. Various types of actuators.
10. Mention the identification tests for emulsion type.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0323]

**MARCH 2023
(SEPTEMBER 2022 EXAM SESSION)**

Sub. Code: 2052

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Discuss the different steps involved in multi tablet compression cycle.
2. Write in detail about the production facilities for parenteral formulation.
3. With neat diagram explain the manufacturing of soft gelatin capsules by rotary die process.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Defects in tablets manufacturing.
2. Quality control test for capsules.
3. Cold cream.
4. Shampoo.
5. Glass containers used in parenterals.
6. Formulation of eye drops.
7. Importance of valve in the aerosol package.
8. Pellets.
9. Differentiate flocculated and deflocculated suspension.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Capping and Lamination.
2. Tests used for emulsion identification.
3. Orange peel effect.
4. Weight variation limits of tablets.
5. Desirable features of good suspension.
6. Types of gelatin with their iso electric point.
7. Advantages of parenteral formulations.
8. Why thickening agents are added to ophthalmic preparations?
9. Name the ingredients required to prepare tooth paste.
10. Types of packaging.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0823]

**AUGUST 2023
(MARCH 2023 EXAM SESSION)**

Sub. Code: 2052

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Define aerosols and discuss about formulation and evaluation of aerosols.
2. Define tablets discuss about defects and evaluation of tablets.
3. Explain manufacturing and quality control tests for soft gelatin capsules.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Additives used in liquid orals.
2. Eye ointments.
3. Different types of packaging material used in pharma industry.
4. Application of pellets.
5. Write about instability of emulsion.
6. Formulation aspect of tooth paste.
7. Evaluation test for empty hard gelatin capsules.
8. Discuss stability problem of suspension.
9. Sham test in parenterals.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Write a test for detecting Pyrogen.
2. List out additives used in syrups.
3. Differentiate syrups and elixirs.
4. Preservatives used in sterile dosage form.
5. Define emulsion.
6. LVP.
7. Importance of surfactant in emulsion.
8. What is glidant and give examples.
9. Shampoo.
10. Actuator types.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 1223]

**DECEMBER 2023
(SEPTEMBER 2023 EXAM SESSION)**

Sub. Code: 2052

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

**PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Describe the formulation and evaluation of aerosols.
2. Write in detail about the formulation and evaluation of ophthalmic products.
3. Write a note on objectives of tablet coating. Explain the different methods of tablet coating.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Organoleptic additives and their importance on formulation of tablets.
2. Processing problems of tablet dosage form.
3. Formulation of emulsions.
4. Final product quality control tests for capsules.
5. Formulation aids for pellets.
6. Explain the different types of a packaging material.
7. Aerosol containers.
8. Formulation of shampoos.
9. Evaluation of parenteral products.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Crystallinity and Polymorphs.
2. Name the types of tablets.
3. Directly compressed tablets.
4. Dentifrices.
5. Types of glasses.
6. Packaging of semisolids.
7. Emulsifying agents.
8. Containers for ophthalmic products.
9. Significance of drug solubility.
10. Sticking and picking in coated tablets.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0524]

MAY 2024

Sub. Code: 2052

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V

PAPER II – INDUSTRIAL PHARMACY I

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Discuss on pharmaceutical aerosols and outline about its types, propellants used, formulation and evaluation of aerosols.
2. Explain the manufacturing, quality control tests, packing, storage and applications of hard gelatin capsules.
3. Enumerate in detail about the manufacturing defects of tablets and measures to overcome the defects.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Explain the different additives used in parenteral formulations.
2. Summarise the Physical factors of drug that affect stability of dosage form.
3. Write about BCS classification and its importance.
4. Explain Wet granulation Method and its limitations.
5. Discuss the identification tests for types of emulsion.
6. Describe the types of packaging material and its importance.
7. Discuss about the formulation aspects of Shampoo.
8. Write a note on Formulation of eye drops.
9. Explain the composition and formulation of lipsticks.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Importance of Isotonicity.
2. Mention the enteric coated polymers.
3. Define polymorphism.
4. State on Bloom strength.
5. Summarise the applications of creams.
6. List the Sizes of hard gelatin capsules.
7. Illustrate the Composition and uses of syrups.
8. Define slugging.
9. Ideal properties of coating materials.
10. LALs test.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 1024]

**OCTOBER 2024
(SEPTEMBER 2024 EXAM SESSION)**

Sub. Code: 2052

B. PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

**PCI Regulation 2017 – SEMESTER V
PAPER II – INDUSTRIAL PHARMACY I**

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Explain about formulation and evaluation aspect of Ophthalmic preparations.
2. Explain the types of granulation techniques involved in tablet production.
3. Explain formulation, identification test and evaluation of emulsion.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Lipsticks.
2. Lay out of production area of parenterals in pharma industry.
3. Sugar coating process.
4. Discuss the relationship of angle of repose and flow property in tablet compression.
5. Rotary die process.
6. Defect of tablets.
7. Preparation of vanishing cream.
8. Manufacturing of empty hard gelatin capsules.
9. Write notes on method of preparation and application of pellets.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Importance of friability test.
2. Elixirs.
3. What are emulsifying agents and give examples.
4. List out Physicochemical properties in preformulation studies.
5. LAL test.
6. Bloom strength.
7. Sizes of hard gelatin capsule.
8. Propellants.
9. Non aqueous vehicle.
10. What is flocculating agent?

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0325]

MARCH 2025

Sub. Code: 2052

B. PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V

PAPER II – INDUSTRIAL PHARMACY I

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Mention the importance of preformulation studies. Study of physiochemical characteristics of drug substance.
2. Describe in detail about the production of tablets with its evaluations.
3. Write elaborately about the creams as cosmetic preparations applied to skin and hair.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Formulation of lyophilized products.
2. Discuss on the formulation of Tooth pastes.
3. Discuss on the evaluation of eye drops.
4. Write a note on Containers for ophthalmic products.
5. Summarize the ideal properties of shampoos.
6. Discuss the types of coating used for tablets.
7. Discuss on the formulation of vanishing and cold cream.
8. Write a note on quality control test for capsules.
9. Define Aerosols and explain its advantages, disadvantages and applications.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Illustrate on Organoleptic additives.
2. What are the cautions given to ophthalmic products?
3. Classify the types of glasses.
4. What is LAF?
5. What is meant by TPN?
6. Differentiate ointments and pastes.
7. Classify liquid dosage forms.
8. State the instabilities of emulsion.
9. Alu-Alu Packing.
10. What are pyrogens?

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[B.PHARM 0925]

SEPTEMBER 2025

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B. PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V

PAPER II – INDUSTRIAL PHARMACY I

Q.P. Code: 562052

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. Define coating. Explain the types of coating and its application in pharma industry.
2. Describe the quality control test to be carried out for pharmaceutical Aerosols.
3. Define parentals and discuss about formulation and evaluation aspect of parentals.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Ideal properties of suspension.
2. Quality control test of tablets.
3. Ideal properties of shampoo.
4. Discuss preformulation studies.
5. BCS classification and its importance.
6. Formulation aspect of aerosol.
7. Weight variation limit of capsules as per I.P.
8. Identification test for emulsion.
9. Labeling method of ophthalmic preparation.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Device used for measuring hardness of tablet.
2. Phase inversion.
3. Binders.
4. Lubricants.
5. Metered dose inhaler.
6. Define aerosols.
7. Diluents.
8. Differentiate elixirs and syrups.
9. Methods to determine angle of repose.
10. Importance of Isotonicity.
