APRIL - 2001

[KD 732] **Sub. Code : 4223**

FOURTH B.Pharmacy DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours — Maximum : 90 marks

Two and a half hours — Sec. A & Sec. B : 60 marks

for Sec. A & Sec. B. — Section C : 30 marks

Answer Sections A and B in the same Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Explain in detail about the preformulation studies with respect to dosage form necessities and physical and chemical properties. (15)

2. Differentiate between soft and hard gelatin capsules.

Explain in detail about the formulation technology of soft gelatin capsules.

Add a note on micro–encapsulation. (2 + 8 + 5)

3. Describe the different types of tablets.

Write in detail about the formulation and manufacture of tablets.

Write a note on the problems associated with tablet compression. (2 + 8 + 5)

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

All questions carry equal marks.

4. Define parenterals. Write a note on their formulation.

5. Explain in detail about the different containers used for packing pharmaceutical aerosols.

6. Explain the various methods of evaluating opthalmic preparations.

7. Explain in detail about the formulation and preparation of shaving products.

8. Enumerate the different prolonged action pharmaceuticals and principles of formulation of any one of them.

9. Explain the principle behind osmotic drug delivery systems.

10. Briefly explain :

(a) Total body clearance

(b) Absorption and elimination rate constants.

(c) AUC.

11. Explain the importance of pharmacokinetics. Write a note on IVIV (2n vitro – 2n vivo) correlation.

NOVEMBER - 2001

[KE 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours — Maximum : 90 marks

Two and a half hours — Sec. A & Sec. B : 60 marks

for Sec. A and Sec. B — Section C : 30 marks

Answer Section A and B in the same Answer Book.

Answer Section C in the Answer Sheet provided.

SECTION A — ($2 \times 15 = 30$ marks)

Answer any TWO questions.

1. (a) Explain the method of manufacturing of soft gelatin capsules by rotary die process. (7)

(b) Give a layout of a parenteral manufacturing section and explain the production facilities required. (8)

2. (a) Explain the pH partition theory. (8)

(b) What are the different methods of measuring bioavailability? (7)

3. What are the different pathways of instability of formulations? Explain the methods to prevent instability in formulations. (15)

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

4. Describe the principle and method of microencapsulation by phase separation and coacervation method.

5. Explain different steps involved in sugar coating of tablets.

6. What are the different types of propellants used in aerosol systems and what are their advantages and disadvantages?

7. What are the methods of preparation of sustained release formulations? Explain the principle of sustained release of drugs by reservoir system.

8. Explain transdermal drug delivery and what are its advantages of limitations.

9. Write a note on preservatives used in parenteral and ophthalmic preparations.

10. (a) Discuss the ideal properties of a face powder. (2)

(b) Give a suitable formula for a liquid shampoo and describe the use(s) of each of the ingredients. (3)

11. (a) Structure of biological membrane. (2)

(b) Define bioequivalence. (1)

(c) Write formulae for biological half-life and volume of distribution. (2)

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MARCH - 2002

[KG 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours — Maximum : 90 marks

Two and a half hours for Sec. A & Sec. B. — Sec. A & Sec. B : 60 marks; Section C : 30 marks

Answer Sections A and B in the same answer book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Explain the physico chemical factors of drug and additives affecting the design and performance of parenteral products.

2. What are the different methods used to coat the tablets? Explain film coating and compression coating techniques for tablets. Mention their relative merits and demerits.

3. Describe the contents of pharmaceutical aerosol package. How does an aerosol valve function? Write the quality control tests for aerosol products.

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

4. Explain how empty hard gelatin capsules are manufactured.

5. How are drugs stabilised against chemical decomposition?

6. Explain the principle behind formulation of prolonged action dosage forms. How are such products evaluated?

7. Explain the role played by excipients in tablet dosage forms.

8. With suitable examples explain the formulation of 'lipsticks' and 'hair cream'.

9. Explain any two approaches to the development of transdermal therapeutic systems.

10. Define bio availability, enumerate the methods to evaluate bio availability and describe any one method in detail.

11. Explain the following :

(a) Volume of distribution

(b) Requirements of ophthalmic preparations.

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SEPTEMBER - 2002

[KH 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours **Maximum : 90 marks**

Two and a half hours **Sec. A & Sec. B : 60 marks**

for Sec. A and Sec. B **Section C : 30 marks**

Answer Sections A and B in the SAME Answer Book.

Answer Section C in the Answer Sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO.

1. Define bioavailability and bioequivalency. Describe bioequivalency testing procedure. Explain bioequivalency parameters.

2. Define Tablets. What are the various methods of manufacturing tablets. Discuss in detail wet granulation method.

3. (a) Discuss safety aspects of baby products.

   (b) Discuss in detail formulation of face powders.

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

4. Discuss formulation and manufacturing of "Parenteral implants".

5. Discuss principle and procedure of 'LAL Test'.

6. Give limitations and benefits of pharmaceutical aerosols.

7. Discuss benefits and limitations of prolonged action pharmaceuticals.

8. Add a note on Liposomes.

9. Explain 'Biological half–life' and 'apparent volume of distribution'.

10. Discuss in brief eye ointment bases.

11. Discuss in brief formulation of Hard gelatin capsules.

12. Add a note on antioxidants and preservatives used in pharmaceuticals.

APRIL - 2003

[KI 732] **Sub. Code : 4223**

FOURTH B. Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours — Maximum : 90 marks

Two and a half hours for Sec. A and Sec. B — Sec. A & Sec. B : 60 marks; Section C : 30 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the Answer Sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Discuss advantages and limitations of parenterals. Give a detail account of various quality control test for parenterals.

2. Define pharmaceutical aerosols. Describe merits, limitations and applications of pharmaceutical aerosols. Discuss various aerosol systems.

3. Define lipsticks. Mention its applications. Discuss formulation and manufacturing of lipsticks.

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

4. Add a note on manufacturing additives.

5. Discuss in brief on significance of physical properties of drugs in formulation.

6. Define shelf-life of drugs. Discuss in brief the procedure for the prediction of 'shelf-life'.

7. What is 'Bloom strength'? Explain how it is determined.

8. Describe in brief manufacturing of 'soft gelatin capsules'.

9. Write a short note on containers for parenterals.

10. Add a note on 'Parenteral emulsions'.

11. Give a brief account of aerosol propellants.

12. Add a note on apparent volume of distribution and its significance.

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OCTOBER - 2003

[KJ 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Two hours and forty minutes Sec. A & Sec. B : 70 marks for Sec. A and Sec. B

Twenty minutes for Sec. C Section C : 20 marks

Answer Sections A and B in the **SAME** Answer book.

Answer Section C in the SEPARATE Answer Sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO.

1. Describe formulation and manufacture of tablets. Discuss manufacturing defects in tablets.

2. Describe formulation and evaluation of parenteral products.

3. Define bio availability and bio equivalency. Describe bio equivalency testing procedure. Explain equivalency parameters.

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT.

4. Short notes on lipsticks.

5. Preparation of osmotic drug delivery system.

6. Describe biological half life $(t_{1/2})$.

7. Requirements for the formulation of opthalmic preparation.

8. Short notes on aerosol propellants.

9. Differences and similarity in hard gelatin capsule shell and soft gelatin capsule shell.

10. Short notes on shelf life of a product.

11. Short notes on preservatives.

12. Write briefly on liposomes.

13. Write briefly on additives.

APRIL - 2004

[KK 732] Sub. Code : 4223

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer Sections A and B in the SAME answer book.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Explain various formulation additives for hard gelatin capsule dosage forms. Describe the machinary for filling hard gelatin capsules.

2. Give an account of different granulation methods. Compare their characteristics and write a note on enteric coating of tablets.

3. Discuss the following with respect to formulation of injections :

(a) Vehicles

(b) Containers and

(c) Additives.

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

4. Explain how the kinetic principles are used in the stability testing of formulations.

5. Give the quality control tests for parenterals.

6. Describe the production of soft gelatin capsules.

7. Give an account of propellants used in aerosols. How are the contents filled in aerosol containers?

8. With a suitable examples discuss the formulations of 'Shampoo' and 'Face Powder'.

9. Give the benefits and limitations of prolonged action dosage forms. Enumerate the various methods for prolongation of action for oral products.

10. Explain the principle/s of osmotic drug delivery systems with a neat sketch.

APRIL - 2004

11. Explain the physiochemical factors affecting drug absorption.

12. Discuss on different types of components used in formulations of ophthalmic preparations.

13. Describe the design and working of different types of coating pens.

AUGUST - 2004

[KL 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours **Maximum : 90 marks**

Sec. A & B : Two hours and forty minutes **Sec. A & B : 70 marks**

M.C.Q. : Twenty minutes **M.C.Q. : 20 marks**

Answer Sections A and B in the SAME answer book.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Describe in detail the kinetic principles of stability testing. Write a note on accelerated stability testing. (7 + 8)

2. Enumerate the advantages of capsules. Explain in detail formulation technology of hard gelatin capsules. Add a note on evaluation of capsules. (2 + 8 + 5)

3. Write a note on objectives of tablet coating. Explain the different methods of tablet coating. Add a note on coating defects and how to overcome them. (5 + 7 + 3)

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

4. Write a note on production facilities required for the manufacture of parenterals.

5. What do you understand by a pharmaceutical aerosol? Explain in detail the pressure filling technique used for manufacture of aerosols.

6. Explain in detail formulation and preparation of eye drops.

7. Explain in detail formulation and preparation of toothpaste.

8. What is the principle behind and advantages and disadvantages associated with the use of prolonged action pharmaceuticals.

9. Explain benefits and limitations of transdermal drug delivery systems. Write a brief note on their formulation.

10. Briefly explain :

    (a) Biological half life

    (b) Apparent volume of distribution

AUGUST - 2004

11. Define "Bio–availability" and "Bio–equivalence". Write a note on Bio–equivalence testing.

12. Renal clearance.

13. How are drugs stabilised against chemical decomposition?

FEBRUARY - 2005

[KM 732] Sub. Code : 4223

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

Essay Questions :

1. What are different reasons for the instability of pharmaceutical formulations? How are the formulations can be prevented from degradation? Explain with examples.

2. How are the soft gelatin capsules manufactured? Discuss about the nature of capsule content and capsule shell in soft gelatin capsules.

3. Define lipsticks. Mention its applications. Discuss formulation and manufacturing of lipsticks.

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

Short notes :

4. What are different types of propellants used in aerosols and describe their characteristics advantages and disadvantages?

5. Discuss on different types of components used in formulations of ophthalmic preparations.

6. What are the ideal requirements of a shampoo? Discuss about formulation of clear liquid shampoo with a suitable formula.

7. Write a note on design and functioning of osmotic pressure regulated drug delivery systems. Give examples.

8. Define bioavailability and bioequivalence. What are the methods to determine the bioavailability? Explain in vitro method of determination of bioavailability.

9. Define shelf life and describe a method to determine the shelf life of a formulation.

FEBRUARY - 2005

10. Discuss on the importance of crystal form of a drug in pharmaceutical formulations.

11. Describe the design and working of different types of coating pans.

12. Liposomes – add a note.

13. Discuss safety aspects of baby products.

AUGUST - 2005

[KN 732] Sub. Code : 4223

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Theory : Two hours and forty minutes Theory : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Long Essay : (2 × 15 = 30)

Answer any TWO questions.

1. Describe Formulation and Manufacture of Hard gelatin capsules?

2. Explain in detail about osmotic drug delivery systems.

3. Describe formulations and evaluation of Parenteral production.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Short notes on dentifrices.

2. Write briefly on Liposomes.

3. Short notes on Bioequivalence testing.

4. Short notes on Eye ointments.

5. Give an account on Aerosal Containers.

6. Write briefly on film coating and enteric coating.

7. Short notes on Shelf Life.

8. Short notes on stabilizers.

9. Write briefly on biological Half Life.

10. Write short notes on Shampoos.

FEBRUARY - 2006

[KO 732] Sub. Code : 4223

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Theory : Two hours and forty minutes Theory : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Long Essay : (2 × 15 = 30)

Answer any TWO questions.

1. (a) Write a note on different types of solvents/solvent systems used in parenteral formulations and describe the method of collection, storage and testing of water for injection. (8)

(b) Write a note on additives used in parenteral preparations. (7)

2. (a) What are the quality control tests done on tablets? Explain the procedure and interpretation of results for content uniformity test and dissolution test.

(b) What are different types of processing problems encountered in manufacture of tablets, what are their reasons and how they can be overcome? (7 + 3 + 3)

3. What are the different pathways of degradation of pharmaceutical products and how they can be protected from degradation? (15)

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Describe the method of manufacture of soft gelatin capsules by rotary die process.

2. Explain the method of microencapsulation of drugs by complex coacervation method with a suitable example.

3. What are the advantages and disadvantages of manufacturing of tablets by direct compression? Give at least three examples for directly compressible vehicles.

4. How do you determine the shelf life of a pharmaceutical product? Explain.

5. Explain the design and working of alzet osmotic pump.

6. Describe the methods of manufacture of aerosol preparations.

7. What are the ideal properties of a face powder? Give suitable formula of a face powder and mention the use of each ingredient.

8. Explain the method of determination of bioavailability from plasma concentration.

9. Briefly on liposomes.

10. Lipsticks.

AUGUST - 2006

[KP 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours	Maximum : 90 marks
Theory : Two hours and forty minutes	Theory : 70 marks
M.C.Q. : Twenty minutes	M.C.Q. : 20 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

1. (a) Benefits and limitations of prolonged action pharmaceuticals.

(b) Bioequivalency test. (10 + 10)

2. Explain the kinetic principles of stability assessment of drugs. How is shelf-life of a dosage form of a drug determined?

3. What is the importance of preformulation studies? What are the steps involved in preformulation studies?

4. Describe in detail the shell formulation and manufacture of soft gelatin capsules. Draw the diagram of soft gelatin capsule filling machine.

II. Short answers/Short notes : (6 × 5 = 30)

Answer any SIX questions.

1. Dentifrice.
2. Evaluation of I.V. fluids.
3. Aerosol container.
4. Organoleptic properties.
5. Film coating.
6. Eye ointment.
7. Shampoo.
8. T.D.D.S.

FEBRUARY - 2007

[KQ 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours — Maximum : 90 marks

Theory : Two hours and forty minutes — Theory : 70 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

1. Describe formulation and manufacture of coated Tablets.

2. Explain manufacturing and quality assurance aspects of Aerosols.

3. Discuss about Bioavailability Bioequivalence and Pharmacokinetic studies.

4. (a) Discuss organoleptic properties. (10)

(b) What are the ideal properties of a face powder? Give suitable formula of a face powder and mention the use of each ingredient. (10)

II. Short notes : (6 × 5 = 30)

Answer any SIX questions.

1. Microencapsulated product.

2. Formulation of Eye Drops.

3. Lipsticks.

4. Skin cream.

5. Liposomes

6. Parental implants.

7. Soft gelatin capsules.

8. Shaving profulation.

[KR 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Time : Three hours Maximum : 90 marks

Theory : Two hours and forty minutes Theory : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Essay Questions : (2 × 15 = 30)

Answer any TWO questions.

1. What are various preformulation studies required before formulating, a dosage form?

2. Describe in detail about formulation of capsule. Explain the differences in manufacturing of hard gelatin capsule and soft gelatin capsule.

3. Describe bioavailability and bioequivalency testings of tablet dosage form.

4. What are the characteristics of ideal tablets? Explain the manufacture of tablets by direct compression technique. Explain the principle of tablet dissolution test (I.P).

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Why do pharmaceutical preparations require Antioxidants? Give the example of Antioxidants with formulations.

2. Explain kinetic principles of stability testing.

3. Differentiate among sugar coating, film coating and enteric coating.

4. What are large volume parenterals and small volume parenterals? How do they basically differ in formulation?

5. Describe the based used for eye ointment and satisfy your answer for eye drops where base is isotonic or not.

6. Explain similarities and dissimilarities in shaving cream and shampoo.

7. Satisfy term with definition prolong action formulation and how will it differ if it is termed as extended drug delivery system.

8. Explain use of liposome as drug delivery system with example of drug and its evaluation.

9. Define clearance and various terms important in clearance parameters.

10. Shampoo.

[KS 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Q.P. Code : 564223

Time : Three hours Maximum : 90 marks

Theory : Two hours and forty minutes Theory : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Essay Questions : (2 × 15 = 30)

Answer any TWO questions.

1. Describe in detail the production of parentrals with its advantages and limitations. Add a note on the pharmaceutical evaluation of parentral products.

2. Explain formulation manufacturing and evaluation of ophthalmic products.

3. Explain the kinetic principles of stability assessment of drugs. How is expiry date of a dosage form of a drug determined?

4. (a) Role of transdermal systems in drug delivery.

(b) Bioequivalence testing.

II. Short answers/short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Describe the design and working of different types of coating pans.

2. Pharmaceutical evaluation of aerosols.

3. Chemical degradation of drugs.

4. Significance of dissolution testing of tablets.

5. Dentifrice.

6. Pharmacokinetic parameters and its significance.

7. Apparent volume of distribution and total body clearance.

8. Pharmacokinetic study.

9. Brushless shaving creams.

10. General method of preparation of lip sticks.

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August 2008

[KT 732] **Sub. Code : 4223**

FOURTH B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper III — FORMULATIVE AND INDUSTRIAL PHARMACY

Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Long Essay : **(2 × 20 = 40)**

Answer any TWO questions.

1. Define Aerosols. Discuss the propellants, formulation containers, packaging methods and evaluation of aerosol preparation. (20)

2. (a) Define pharmaco kinetics and compartment models. Write the significance and estimation of pharmacokinetic parameters of one compartment open model. (10)

(b) Write the preparation, formulation and evaluation of shampoos.

3. Define parenteral products and their classification. Write the merits and demerits, formulation, production procedure personnel requirements and evaluation of parenteral products.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Osmotic drug delivery systems and their classifications.

2. Write about shaving preparations and their usages.

3. Short notes on kinetic principles of stability testing.

4. Formulation and evaluation of eye drops.

5. Types and formulation of prolonged action pharmaceuticals.

6. Formulation and evaluation of soft gelatin capsules.

7. Write about the problems encountered during Tablet compression.

8. Explain the polymorphism and its influence in the formulation of solid dosage form.

9. Explain compression coating, film coating and its importances.

10. Importance of excipients in the formulation.

III. Short answers : (5 × 2 = 10)

Answer any FIVE questions.

1. Co-acerration and phase separation.

2. Composition of glass.

3. Enteric polymer.

4. Slugging and its applications.

5. Bridging and rat holing.

6. Base adsorption.

7. Picking and sticking.

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February 2009

[KU 732] **Sub. Code: 4223**

FOURTH B.PHARM. DEGREE EXAMINATION
(ReRevised Regulations)
Candidates Admitted upto 2003-04
Paper III – FORMULATIVE AND INDUSTRIAL PHARMACY
Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Essay Questions : Answer any TWO questions (2 x 20 = 40)

1. What is the importance of preformulation studies? What are the steps involved in preformulation studies?
2. Explain the kinetic principles of stability assessment of drugs. How is shelf life of a dosage form of a drug determined?
3. Describe in detail about the production of tablets with its evaluations. Add a note on the tablet coating methods.

II. Write Short Notes : Answer any EIGHT questions (8 x 5 = 40)

1. Hard gelatin capsules.
2. Biological half-life.
3. Liposomes.
4. Volume of distribution.
5. Drug elimination rate.
6. Lipsticks.
7. Face powder.
8. Eye ointments
9. Importance of propellants in aerosol preparations.
10. Quality control tests for parenterals.

III. Short Answers: Answer any FIVE questions (5 x 2 = 10)

1. Define preservatives with examples.
2. Define implants emulsion with examples.
3. Write the advantage of disadvantages of parenterals (any two)
4. What are the types of propellants with examples?
5. Write the formulation for shaving preparations?
6. Define bioequivalency testing?
7. Define Microencapsulation?

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August 2009

[KV 732] **Sub. Code: 4223**

FOURTH B.PHARM. DEGREE EXAMINATION
(ReRevised Regulations)
Candidates Admitted upto 2003-04
Paper III – FORMULATIVE AND INDUSTRIAL PHARMACY
Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Essay Questions : Answer any TWO questions (2 x 20 = 40)

1. Describe an aerosol containers and its components. Give an account of different propellants used in various aerosol formulations and the applications of aerosols.
2. Explain the fabrication of various types of transdermal patches and give the advantages of TDDS.
3. Discuss how the physiological factors influence the bio-availability of a drug from a dosage form with suitable examples.

II. Write Short Notes : Answer any EIGHT questions (8 x 5 = 40)

1. Explain the rotary die process of soft gelatin capsules.
2. Face powders.
3. Discuss the applications of stability studies.
4. Osmotic pump.
5. Solubility studies in pre-formulations.
6. Liposomes.
7. Dissolution testing on tablets.
8. Vehicles in parentrals.
9. Microencapsulated product.
10. Formulation of Eye drops.

III. Short Answers: Answer any FIVE questions (5 x 2 = 10)

1. Define pre-formulation.
2. Composition of soft gelatin capsule.
3. Overages in pharmaceutical products.
4. Coating materials in micro capsules.
5. Enteric coating polymers.
6. Types of parentrals.
7. Define bio availability.

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February 2010

[KW 732] **Sub. Code: 4223**

FOURTH B.PHARM. DEGREE EXAMINATION
(ReRevised Regulations)
Candidates Admitted upto 2003-04
Paper III – FORMULATIVE AND INDUSTRIAL PHARMACY
Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Essay Questions : Answer any TWO questions (2 x 20 = 40)

1. Explain manufacturing and quality assurance aspects of aerosols.
2. Describe in detail the shell formulation and manufacture of soft gelatin capsules.
3. What are the different pathways of degradation of pharmaceutical products and how they can be protected from degradation?

II. Write Short Notes : Answer any EIGHT questions (8 x 5 = 40)

1. Evaluation of I.V. fluids.
2. Shampoos.
3. Eye ointments.
4. Film coating.
5. TDDS.
6. Determination of bio availability from plasma concentration.
7. Design and working of Alzet osmotic pump.
8. Advantages and disadvantages of direct compression.
9. Micro encapsulation by complex coacerlation phase.
10. Additives in parentral formulations.

III. Short Answers: Answer any FIVE questions (5 x 2 = 10)

1. Define bio-equivalence.
2. Name the bases used for eye ointments.
3. Similarities of shaving creams and shampoos.
4. Define NDDS.
5. Advantages of lip sticks.
6. Explain the term shelf life.
7. Steps involved in sugar coating.

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September 2010

[KX 732] **Sub. Code: 4223**

FOURTH B.PHARM. DEGREE EXAMINATION

(Re-Revised Regulations)Candidates Admitted upto 2003-04

Paper III – FORMULATIVE AND INDUSTRIAL PHARMACY

Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Essay Questions : **(2 X 20 = 40)**

Answer any TWO questions.

1. Define Biopharmaceutics. Explain different mechanisms of absorption and discuss the factors influencing drug absorption in the biological system.

2. Define Novel drug delivery systems and how does it differ from Prolonged drug delivery systems. Write about the formulation and evaluation of Transdermal drug delivery systems.

3. What are the principles behind the stability testing? Discuss the factors influencing the stability of drugs and write the procedure to be followed for the stability testing of pharmaceutical products.

II. Write Short Notes : **(8X 5 = 40)**

Answer any EIGHT questions.

1. Coating - Its problems and rectification.
2. Clearance and its concepts.
3. Numbering system used for propellants used in Aerosols.
4. Manicure preparation and its significance.
5. Quality control of prolonged action pharmaceuticals.
6. Formulation, Evaluation and Containers used for Eye ointments.
7. Principles of Osmotic delivery system and its applications.
8. Packaging of Parenteral products.
9. Volume of distribution and its significance in drug distribution.
10. Sterility testing of Parenteral products.

III. Short Answers: **(5X2 = 10)**

Answer any FIVE questions.

1. Shelf Life Period.
2. Parameter to be controlled for coating process.
3. Base absorption.
4. Slugging.
5. Bioequivalance.
6. Types of closures used for containers.
7. Room classification in sterile products preparation.

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FEBRUARY 2011

[KY 732] **Sub. Code: 4223**

FOURTH B.PHARM. DEGREE EXAMINATION

(Re-Revised Regulations) Candidates Admitted upto 2003-04

Paper III – FORMULATIVE AND INDUSTRIAL PHARMACY

Q.P. Code : 564223

Time : Three hours **Maximum : 90 marks**

I. Essay Questions : Answer any TWO questions. (2 x 20 = 40)

1. Explain about two phase and three phase aerosol systems. Explain various filling techniques. Give the quality control tests for aerosol.
2. Write a note on objectives of Tablet coating. Explain the different methods of Tablet Coating.
3. Discuss in detail the Transdermal Formulation Techniques. Discuss the merits and demerits of such formulations.

II. Write Short Notes : Answer any EIGHT questions. (8 x 5 = 40)

1. Preparation of Osmotic drug delivery system.
2. Methods to enhance bioavailability
3. Non compartmental pharmacokinetics.
4. Dissolution test and Appar.
5. Formulation of eyedrops.
6. Hair creams.
7. What is overage and role of overage in pharmaceutical product stability?
8. Describe a methods to determine the shelf life of a formulation.
9. Volume of distribution and its significance in drug distribution.
10. Formulation and containers used for eye ointments.

III. Short Answers: Answer any FIVE questions. (5 x 2 = 10)

1. Define Pharmacokinetics.
2. Simple eye ointment.
3. Different sizes of capsules and their capacity.
4. Water for injection.
5. Biological half life.
6. Liquified gas propellants.
7. Advantages of prolonged acting pharmaceuticals.

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