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

[BPHARM 1221] DECEMBER 2021 Sub. Code: 2075
(MARCH 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM
Q.P. Code : 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Discuss about the polymers in controlled release drug delivery system.
2. Write about the implantable drug delivery system.
3. Discuss about the ocular drug delivery system.

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

1. Advantages and disadvantages of controlled drug delivery system.
2. Coacervation - phase separation method.
3. Basic components of Transdermal drug delivery system.
4. Floating drug delivery system.
5. Nasal drug delivery system.
6. Approaches of targeted drug delivery system.
7. Intra uterine drug delivery system.
8. Preparation of monoclonal antibodies.
9. Pulmonary drug delivery system.

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

1. Terminology of controlled drug delivery system.
2. Characteristics of ideal polymers.
3. Advantages of microencapsulation.
4. Stages of mucoadhesion.
5. List out evaluation test of Transdermal drug delivery system.
6. Mucoadhessive drug delivery system.
7. Targeted drug delivery system.
8. Nanoparticle.
9. Inserts.
10. Types of intrauterine device.

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

[BPHARM 0522] **MAY 2022** **Sub. Code: 2075**

(SEPTEMBER 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM
Q.P. Code : 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Discuss about the approaches to design controlled release formulation.
2. Write about the liposomes targeted drug delivery system.
3. Write about the methods of microencapsulation.

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

1. Applications of nasal drug delivery system.
2. Metered dose inhalers.
3. Niosomes.
4. Applications of monoclonal antibodies.
5. Intrauterine device.
6. Barriers to ocular drug delivery system.
7. Evaluation of nanoparticles.
8. Factors affecting permeation of Transdermal drug delivery system.
9. Dissolution controlled release system.

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

1. Advantages of controlled drug delivery.
2. Natural Polymers.
3. Advantages of micro encapsulation.
4. Air suspension techniques.
5. Drugs suitable for Gastro-retentive drug delivery system.
6. Floating drug delivery system.
7. Advantages of transdermal drug delivery systems.
8. Applications of niosomes.
9. Ocuserts.
10. Application of nanoparticle.

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

[BPHARM 1022] **OCTOBER 2022** **Sub. Code: 2075**
(MARCH 2022 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation 2017 - SEMESTER VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM
Q.P. Code : 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Write the concept of controlled drug delivery system. Explain the approaches for the controlled release formulations based on dissolution.
2. State various methods to prepare liposomes.
3. What is an implant? Explain the formulation of implants with a suitable example.

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

1. Write methods of preparing nanoparticle.
2. Explain about microballoons as gastroadhesive drug delivery system.
3. Describe the components of transdermal DDS.
4. Discuss in detail about mucosal drug delivery system.
5. What are niosomes? Write its applications in targeted drug delivery system.
6. Explain the pharmaceutical applications of microspheres.
7. Describe in detail about formulations aspects of Nasal spray.
8. Write mechanism of controlled drug release in ophthalmic drug delivery.
9. Discuss briefly on intra-vaginal drug delivery system.

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

1. Define Microencapsulation technique.
2. Biological half- life.
3. Application of intrauterine drug delivery system.
4. What is Transdermal drug delivery system?
5. Define buccal drug delivery system.
6. Apparent volume of distribution.
7. Iontophoresis.
8. What are the ideal requirements of ocular drug delivery system?
9. Nebulizer.
10. Gastroretentive drug delivery system.

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

[B.PHARM 0323] MARCH 2023 Sub. Code: 2075
(SEPTEMBER 2022 EXAM SESSION)

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Explain the principle involved in the design of controlled drug delivery system.
2. Define Microencapsulation. Write the applications of microencapsulation. Explain phase separation – coacervation technique.
3. Define liposomes. Explain the different methods of preparation of liposomes.

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

1. Write a note on the formulation of buccal drug delivery system.
2. Explain concept, advantages, disadvantages of implants.
3. Explain any one formulation approaches for transdermal drug delivery system.
4. Classification of polymers.
5. What is nasal drug delivery system? Write about its advantages and disadvantages.
6. Describe about hormonal intrauterine drug delivery system.
7. What are niosomes? Write its applications in target drug delivery system.
8. Explain concept, advantages and disadvantages of nanoparticle.
9. Explain the characteristics of ocular drug delivery system.

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

1. Define controlled release and sustained release.
2. Define half life and protein binding.
3. Define core and coat materials with respect to microencapsulation.
4. Dry powder inhaler.
5. Iontophoresis.
6. Gastroretentive drug delivery system.
7. Intravitreal injection.
8. Nebulizer.
9. Define dissolution and diffusion.
10. Spray drying and spray congealing.

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

[B.PHARM 0823] **AUGUST 2023** **Sub. Code: 2075**
(MARCH 2023 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation 2017 - SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Define microencapsulation. Write in detail about methods of microencapsulation.
2. Enumerate the approaches for GRDDS.
3. Describe intra ocular barriers and methods to overcome it.

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

1. Selection of drug for controlled release preparations.
2. Transmucosal permeability.
3. Application of polymers.
4. Classification of Polymeric Implants.
5. Factors affecting skin permeation.
6. Formulation of inhalers.
7. Classification of liposomes.
8. Niosomes.
9. Applications of intrauterine drug delivery systems.

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

1. Hormone Releasing Intrauterine Devices.
2. Targeted Drug Delivery.
3. Osmogen.
4. ALZET Pump.
5. Sustained Drug Release.
6. Nasal Spray.
7. Monoclonal antibodies.
8. Matrix Diffusion System.
9. Ocusert.
10. Iontophoresis.

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

[B.PHARM 1223] DECEMBER 2023 Sub. Code: 2075
(SEPTEMBER 2023 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation 2017 - SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Enumerate about of design and approaches of controlled release formulations.
2. Write in detail about basic components of transdermal drug delivery system and its formulation.
3. Describe about nanoparticles in targeted drug delivery system.

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

1. Applications of microencapsulation.
2. Principles of bioadhesion.
3. Intra uterine devices.
4. Monoclonal antibodies.
5. Metered dose inhalers.
6. Osmotic pump.
7. Classification of polymers.
8. Permeation enhancers.
9. Intra ocular barriers.

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

1. Extended release.
2. Mucoadhesive polymer.
3. Microcapsules.
4. Implants.
5. Gastroretentive drug delivery systems.
6. Nebulizer.
7. Classification of liposomes.
8. Skin permeation pathways.
9. Ocuserts.
10. Niosomes.

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

[B.PHARM 0524] **MAY 2024** **Sub. Code: 2075**

B. PHARMACY DEGREE EXAMINATION
PCI Regulation 2017 - SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Explain about various approaches for Gastro retentive drug delivery system.
2. Discuss the various physiochemical and biological factors affecting controlled release dosage form.
3. Write in detail about advantages, disadvantages and preparation of liposomes and its evaluation.

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

1. Basic composition of transdermal patches.
2. Barriers in ophthalmic drug delivery system.
3. Classification and application of polymer in controlled drug delivery system.
4. Various types of implantable devices.
5. Osmotic pump and its application.
6. Difference between nasal spray and nebulizer.
7. Intra uterine device and its application.
8. Preparation of nanopartices.
9. Basic composition and design of Buccal patches.

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

1. Ocusert with example.
2. Biodegradable polymer.
3. Microencapsulation.
4. Osmogen with example.
5. Types of liposomes.
6. Effervescent floating system.
7. Hybridoma technology.
8. Dry powder inhaler and metered dose inhaler.
9. Diffusion based drug delivery.
10. Advantages of nasal drug delivery system.

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

[B.PHARM 1024] OCTOBER 2024 Sub. Code: 2075
(SEPTEMBER 2024 EXAM SESSION)

B. PHARMACY DEGREE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 - SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Discuss the various approaches to design controlled release formulations.

2. Define Microencapsulation. Write the applications of microencapsulation. Explain phase separation – coacervation technique.

3. Discuss the concepts, approaches, advantages, disadvantages, preparation and applications of monoclonal antibodies.

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

1. Explain the physicochemical and biological properties of drugs relevant to controlled release formulations.
2. Buccal delivery systems.
3. Permeation enhancers used in TDDS.
4. Liposomes targeted drug delivery system.
5. Pulmonary drug delivery system.
6. Ocuserts.
7. Application of intrauterine drug delivery system.
8. Characteristics of ideal polymers.
9. Formulation of inhalers.

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

1. Define extended release drug delivery systems.
2. Classification of polymers.
3. Implants.
4. Mucoadhesive polymer.
5. Nasal sprays.
6. Floating tablets.
7. Applications of Liposomes.
8. Advantages and disadvantages of Nanoparticles.
9. Niosomes.
10. Iontophoresis.

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

[B.PHARM 0325] **MARCH 2025** **Sub. Code: 2075**

B. PHARMACY DEGREE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 - SEMESTER - VII
PAPER IV - NOVEL DRUG DELIVERY SYSTEM

Q.P. Code: 562075

Time: Three hours **Maximum: 75 Marks**

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

1. Discuss about polymers used in controlled release drug delivery system.
2. What are ocular barriers for drug delivery and how can it be overcome? Explain formulation of ocuserts.
3. Write in detail about basic components of the Nasal drug delivery system and its formulation.

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

1. Explain the ion exchange principle to design controlled release formulations.
2. Explain the pharmaceutical applications of microspheres.
3. Mucoadhesive drug delivery system.
4. Describe the components of the transdermal drug delivery system.
5. Describe the structure, composition, advantage, preparation and applications of Niosomes.
6. Discuss briefly on the intra uterine devices.
7. Differentiate sustained release and controlled release drug delivery system.
8. Monocolonal antibodies in drug targeting.
9. Coacervation phase separation technique.

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

1. Define delayed release drug delivery systems.
2. Biodegradable polymers.
3. Spray drying and spray congealing.
4. Transmucosal permeability.
5. Metered dose inhalers.
6. Contact lens.
7. Applications of Nanoparticles.
8. Advantages and disadvantages of liposomes.
9. Monoclonal antibodies for drug targeting.
10. Disadvantages of intrauterine devices.

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