

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

[LL 932]

NOVEMBER 2017

Sub. Code: 2932

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-I  
PHARMACEUTICS – MPH  
PAPER II – DRUG DELIVERY SYSTEM**

*Q.P. Code : 262932*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail ocular drug delivery system.
2. Explain the concepts and design of rate controlled drug delivery systems.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Pharmacogenetics.
2. Components of transdermal drug delivery systems.
3. Buccal tablets.
4. Biodegradable polymers.
5. Methods to enhance drug permeation through transdermal route.
6. Preparation and evaluation of gastro retentive floating tablets.
7. Drug delivery systems for proteins.

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

[LM 932]

MAY 2018

Sub. Code: 2932

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-I  
PHARMACEUTICS – MPH  
PAPER II – DRUG DELIVERY SYSTEM**

*Q.P. Code : 262932*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Enumerate the characteristics of drugs to be formulated as Transdermal Drug Delivery System. Explain formulation and evaluation in detail.
2. Describe the various formulation approaches for delivery of proteins and macromolecules.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Buccal strips.
2. Formulation of gastro retentive drug delivery systems.
3. Occuserts.
4. Pharmacogenetics.
5. Natural polymers.
6. Osmotic Pumps.
7. Newer trends in delivery of vaccines.

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

[LN 932]

NOVEMBER 2018

Sub. Code: 2932

**M.PHARM. DEGREE EXAMINATION**  
**(PCI New regulations 2016)**  
**SEMESTER-I**  
**PHARMACEUTICS – MPH**  
**PAPER II – DRUG DELIVERY SYSTEM**

*Q.P. Code : 262932*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the various approaches to formulate gastro retentive drug delivery systems.
2. Classify and explain in detail about polymers. Write the applications of polymers in controlled drug delivery systems.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Physiochemical properties affecting sustained release preparations.
2. Telepharmacy.
3. Activation modulated drug delivery systems.
4. Evaluation of mucoadhesive drug delivery.
5. Ophthalmic drug delivery systems.
6. Methods to enhance transdermal permeation.
7. Newer drug delivery systems for proteins.

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

[LO 932]

MAY 2019

Sub. Code: 2932

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-I  
PHARMACEUTICS – MPH  
PAPER II – DRUG DELIVERY SYSTEM**

*Q.P. Code : 262932*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss the classification and applications of polymers in drug delivery.
2. Explain about osmotic activated drug delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. pH activated drug delivery systems.
2. Penetration enhancers in transdermal drug delivery systems.
3. Transdermal drug delivery of vaccines.
4. Customized drug delivery systems.
5. Barriers of drug permeation in ocular drug delivery.
6. Merits and demerits buccal drug delivery systems.
7. Elementary osmotic pump.

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

[LP 932]

NOVEMBER 2019

Sub. Code: 2932

**M.PHARM. DEGREE EXAMINATION**  
**(PCI New regulations 2016)**  
**SEMESTER-I**  
**BRANCH I – PHARMACEUTICS – MPH**  
**PAPER II – DRUG DELIVERY SYSTEM**

*Q.P. Code : 262932*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss about mechanism of drug release from CR/SR formulation.
2. Explain about modulation of GI transit time approaches to extend GI transit time.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Enzyme activated drug delivery systems.
2. Categories of patients for personalized medicine.
3. Buccal strips.
4. Occusert systems.
5. Methods to enhance skin permeation.
6. Uptake of antigens.
7. Explain formulation any one drug delivery system of proteins and other molecules.

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

**[LQ 0121]**

**JANUARY 2021**

**Sub. Code: 2932**

**(APRIL 2020 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**

**SEMESTER-I (PCI New regulations 2016)**

**PHARMACEUTICS – MPH**

**PAPER II – DRUG DELIVERY SYSTEM**

***Q.P. Code : 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail the principle involved and formulation of gastro retentive drug delivery system.
2. Explain the physiochemical and biological factors influencing the design of sustained release dosage forms.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Personalized medicines.
2. Biodegradable polymers.
3. Buccal strips.
4. Activation modulated drug delivery.
5. Occuserts.
6. Formulation of delivery systems for vaccines.
7. Evaluation of transdermal patches.

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

**[MPHARM 0921]**

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

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER-I (PCI New regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM  
*Q.P. Code : 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail Vaccine delivery system.
2. Explain about formulation and evaluation of Protein and peptide Delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. 3D printing of Pharmaceuticals.
2. Buccal drug delivery system.
3. Permeature enhancement methods for transdermal permeation.
4. Biological factors influencing SR/CR formulations.
5. Personalized medicines.
6. Ocuserts.
7. Advantages and Disadvantages of Sustained release formulations.

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

**[MPHARM 0122]**

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

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER-I (PCI New regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM  
*Q.P. Code : 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail the formulation aspects of transdermal DDS. Write a note on evaluation tests.
2. Describe formulations of mechanically activated, pH activated and Osmotic activated rate controlled Drug Delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Biodegradable polymers.
2. Vaccine delivery systems.
3. Customized Drug Delivery System.
4. Evaluation of delivery system of proteins.
5. Barriers of drug permeation in Ocular Drug Delivery system.
6. Principle of muco adhesion in Buccal drug delivery system.
7. Advantages and Disadvantages of Gastro Retentive drug delivery system.

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

**[MPHARM 0422]**

**APRIL 2022  
(OCTOBER 2021 EXAM SESSION)**

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER-I (PCI New regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM  
*Q.P. Code : 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the principle and approaches for formulation of rate controlled DDS.
2. Explain about Ocular Drug Delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Mucosal and transdermal delivery of vaccines.
2. Evaluation of Transdermal drug delivery system.
3. Osmotic activated drug delivery system.
4. Bioelectronic medicines.
5. Telepharmacy.
6. Physicochemical factors influencing SR/CR formulation.
7. Mechanism of Drug Delivery from SR/CR formulation.

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

**[M.PHARM 0922]**

**SEPTEMBER 2022  
(APRIL 2022 EXAM SESSION)**

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM**

***Q.P. Code : 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the various approaches used in the design of oral sustained release or controlled release drug delivery system.
2. Give a detailed account on the various formulation approaches used to enhance the gastrointestinal residence of dosage forms.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Bioelectronic medicines.
2. Barriers to ocular drug delivery.
3. Environmentally responsive polymers.
4. Methods to enhance drug permeation across skin.
5. Formulation approaches for protein and peptide parenteral delivery of drugs.
6. Single shot vaccines.
7. Principle of mucoadhesion.

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

**[M.PHARM 0423]**

**APRIL 2023  
(OCTOBER 2022 EXAM SESSION)**

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM**

***Q.P. Code: 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Elaborate on vaccine drug delivery systems.
2. Explain in detail about the buccal mucosa, principle of mucoadhesion, formulation approaches and evaluation of buccal drug delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Tele pharmacy.
2. Diffusion controlled drug delivery system.
3. Factors affecting percutaneous absorption of drugs.
4. Feedback regulated drug delivery system.
5. Formulation approaches for ocular drug delivery system.
6. Barriers to protein and peptide drug delivery.
7. Floating drug delivery systems.

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

**[M.PHARM 0823]**

**AUGUST 2023  
(APRIL 2023 EXAM SESSION)**

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New Regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM**

***Q.P. Code: 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail the formulation approaches, evaluation and applications of transdermal drug delivery system.
2. Give a detailed account on the various polymers used in the formulation of sustained or controlled release drug delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. 3-D printing of pharmaceuticals.
2. Vaccine drug delivery system.
3. Barriers to protein and peptide drug delivery.
4. Factors affecting gastro retention of oral dosage forms.
5. Chemically activated drug delivery systems.
6. Evaluation of Buccal films.
7. Ocular inserts.

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

**[M.PHARM 1223]**

**DECEMBER 2023  
(OCTOBER 2023 EXAM SESSION)**

**Sub. Code: 2932**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New Regulations 2016)  
PHARMACEUTICS - MPH  
PAPER II – DRUG DELIVERY SYSTEM**

***Q.P. Code: 262932***

**Time : Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe the principle, dosage form, formulation and evaluation of mucoadhesive drug delivery.
2. Explain the formulation and evaluation of osmotic drug delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Biological factors affecting controlled release preparations.
2. Gastro retentive drug delivery.
3. Occuserts.
4. Preparation of transdermal patches.
5. Feedback regulated drug delivery.
6. Classification of polymers used in drug delivery.
7. Protein drug delivery.

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