

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

**[LM 935 ]**

**MAY 2018**

**Sub. Code: 2935**

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-II  
BRANCH-I – PHARMACEUTICS – MPH  
PAPER I – MOLECULAR PHARMACEUTICS  
(NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail about Pulmonary drug delivery system.
2. Explain about Liposomal gene delivery systems.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Preparation of nano-particles.
2. Write a note on tumor targeting.
3. Phytosomes.
4. Write briefly about Gene expression system.
5. Basic concepts of drug targeting.
6. Electrosomes.
7. Antisense Oligonucleotides.

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

**[LN 935 ]**

**NOVEMBER 2018**

**Sub. Code: 2935**

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-II  
BRANCH-I – PHARMACEUTICS – MPH  
PAPER I – MOLECULAR PHARMACEUTICS  
(NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the basic concept of target oriented drug delivery system. Write note on Tumour targeting.
2. Explain the principle and techniques of formulating Nanoparticles.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Coacervation phase separation technique.
2. Antibody drug delivery system.
3. Liposomes.
4. Nasal drug delivery system.
5. Gene transfer.
6. Apatmers.
7. Filling methods of Aerosol.

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

**[LO 935 ]**

**MAY 2019**

**Sub. Code: 2935**

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-II  
BRANCH-I – PHARMACEUTICS – MPH  
PAPER I – MOLECULAR PHARMACEUTICS  
(NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe the methods of active and passive targeting using particulate carriers. Describe the use of liposomes for drug targeting.
2. Explain in detail about types, preparation and evaluation of Intra Nasal Route Delivery System.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Monoclonal Antibodies.
2. Aerosols.
3. Preparation and application of niosomes.
4. Write a note on Aptamers.
5. Gene therapy for cancer.
6. Preparation and evaluation of Microspheres.
7. Brain specific delivery.

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

**[LP 935 ]**

**NOVEMBER 2019**

**Sub. Code: 2935**

**M.PHARM. DEGREE EXAMINATION  
(PCI New regulations 2016)  
SEMESTER-II  
BRANCH-I – PHARMACEUTICS – MPH  
PAPER I – MOLECULAR PHARMACEUTICS  
(NANO TECH AND TARGETED DDS)**

***Q.P. Code : 263935***

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss in detail about liposomal drug delivery system.
2. Explain about two phase and three phase aerosol systems. Explain various filling techniques. Give the quality control tests for aerosols.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Give the principle of microencapsulation. Explain any one technique adopted for bringing about microencapsulation.
2. Explain briefly pulmonary drug delivery system.
3. Preparation and applications of Aquasomes.
4. Niosomes.
5. Gene therapy.
6. Nanoparticles.
7. Drug Targeting.

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

**[LQ 0121]**

**JANUARY 2021**

**Sub. Code: 2935**

**(APRIL 2020 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**

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

**PHARMACEUTICS – MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the basic concept of target oriented drug delivery systems and write about liposomes as particulate DDS in drug targeting to a specific site.
2. Describe about Two & Three phase aerosol systems. Explain in detail about quality control tests for aerosols.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Discuss the various Microencapsulation techniques.
2. Describe in brief about pulmonary drug delivery system.
3. Discuss about the preparation of Monoclonal antibody.
4. Formulation of Niosomes.
5. Gene therapy.
6. Explain in detail about aptamers.
7. Explain the various approaches for Drug Targeting.

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

**[MPHARM 0921]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION**

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

**PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Give an account of targeting methods and discuss the various types targeting process with suitable examples.
2. Discuss the types, preparation and evaluation of Intra Nasal Route delivery systems.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Electosomes.
2. Propellents used for Aerosols.
3. Significance of gene therapy.
4. Monoclonal antibodies.
5. Antisense molecules.
6. Liposomes.
7. Gene Expression systems.

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

**[MPHARM 0122]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION**

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

**PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain the types, preparation, propellents, containers and evaluation of Aerosols.
2. Define Nanoparticles and discuss their types, preparation and evaluation including the applications in the medical field.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Tumor targeting.
2. Phytosomes.
3. Evaluation of Intra nasal delivery systems.
4. Significance of gene therapy.
5. Aptamers.
6. Targeting methods.
7. Liposomal gene delivery systems.

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

**[MPHARM 0422]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION**

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

**PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Classify the liposomes and discuss their methods of preparation and evaluation including their applications with suitable examples.
2. Discuss the types, preparation, problems and evaluation of pulmonary drug delivery systems.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Niosomes.
2. Containers used for Aerosols.
3. Brain specific delivery.
4. Intra nasal route delivery systems.
5. Antisense molecules.
6. Phytosomes.
7. Significance of gene therapy.

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

**[M.PHARM 0922]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New regulations 2016)  
PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code : 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss in detail about delivery system in drug targeting to the brain.
2. Explain in detail about the types of containers, propellants, preparation and evaluation of aerosols.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Coacervation and phase separation technique.
2. Liposomal Gene Delivery System.
3. Brief note on electrosomes.
4. Aptamers.
5. Write a note on gene expression system.
6. Applications of Monoclonal Antibodies.
7. Intranasal delivery systems.

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

**[M.PHARM 0423]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New regulations 2016)  
PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a. Preparation and evaluation types of nano particles.  
b. Write elaborate note on microspheres.
2. Explain in detail about the types, preparation and evaluation of intranasal route delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Brain specific delivery.
2. Brief note on electrosomes.
3. Applications of Monoclonal Antibodies.
4. Potential target disease for gene therapy.
5. Preparation and application of niosomes.
6. Biologic process involved in drug targeting.
7. Coacervation and phase separation technique.

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

**[M.PHARM 0823]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New Regulations 2016)  
PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe about Nano particles as drug delivery system. Enumerate the methods of their preparation and their evaluation.
2. Explain the basic concept of target oriented drug delivery system. Write a note on biological process involved in drug targeting.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Microencapsulation by air suspension method.
2. Give a brief account on liposomal drug delivery system.
3. Describe about Evaluation of Monoclonal antibodies.
4. Enumerate about the evaluation of Nasal drug delivery system.
5. Describe in detail about Aerosol containers.
6. Aquasomes.
7. Viral Gene Transfer.

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

**[M.PHARM 1223]**

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

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New Regulations 2016)  
PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time : Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss in detail about liposomal formulations for drug targeting and evaluation of liposomes.
2. a) Describe the quality control tests for Pharmaceutical aerosols.  
b) Explain the propellants used in Aerosols.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Describe in brief about pulmonary drug delivery system.
2. Phytosomes.
3. Aptamers as drug futures.
4. Explain in detail about Gene therapy.
5. Discuss in detail about Brain targeted drug delivery system.
6. Microencapsulation by co acervation phase separation technique.
7. Enumerate the preparation of Nanoparticulate drug delivery system.

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

**[M.PHARM 0524]**

**MAY 2024  
(APRIL 2024 EXAM SESSION)**

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New regulations 2016)  
PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain in detail about liposomal drug delivery system in drug targeting to a specific site.
2. Describe in detail about gene expression system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Illustrate the methods for the preparation of nanoparticles.
2. Write a note on aptamers.
3. Describe briefly about tumor targeting.
4. Discuss about preparation and evaluation of microspheres.
5. Give a note on aerosols.
6. Brain specific delivery of drugs.
7. Give an account of aquasomes.

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

**[M.PHARM 0425]**

**APRIL 2025**

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION**

**SEMESTER - II (PCI New Regulations 2016)**

**PHARMACEUTICS - MPH**

**PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Define Targeted Drug Delivery System. Briefly explain the concept, events and Biological process involved in Drug Targeting.
2. Describe Gene Expression System and Explain Liposomal gene delivery system.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Concept, events and biological process of Tumor targeting.
2. Write the Preparation and evaluation of Nanoparticles.
3. Phytosomes.
4. Explain Intra Nasal Route Delivery System with examples.
5. Aerosols with propellents.
6. Explain about Wurster Air Suspension Technique with a neat diagram.
7. Nasal route delivery system.

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

**[M.PHARM 1025]**

**OCTOBER 2025**

**Sub. Code: 2935**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - II (PCI New Regulations 2016)  
PHARMACEUTICS - MPH  
PAPER I – MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS)**

***Q.P. Code: 262935***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain in detail the therapeutic applications, preparation and evaluation of Niosomes.
2. Explain the formulation and evaluation of Pharmaceutical Aerosols.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Write briefly about the basic concepts of Targeted drug delivery systems.
2. Write short notes on tumor targeting.
3. Liposomes.
4. Explain briefly about Nanocrystals and Nanosuspensions.
5. What are Monoclonal antibodies?
6. What is Gene therapy?
7. Aptamers.

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