

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

[LO 964]

MAY 2019

Sub. Code: 2964

M.PHARM. DEGREE EXAMINATION

(PCI New regulations 2016)

SEMESTER-I

**BRANCH IV–PHARMACEUTICAL BIOTECHNOLOGY – MPB
PAPER IV – ADVANCED PHARMACEUTICAL BIOTECHNOLOGY**

Q.P. Code : 262964

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe the classification of enzymes and dynamics of enzyme activity. Add note on pharmaceutical and therapeutic applications.
2. a) Explain different types of biosensors.
b) Production of Hepatitis – B Vaccine.

II. Write notes on:

(7 x 5 = 35)

1. Cloning vectors.
2. Gene therapy.
3. Cell signaling pathways.
4. Oncogenes.
5. Production of single-cell protein.
6. Types of Microbial biotransformation.
7. Production of Insulin.

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

[LQ 0121]

JANUARY 2021

Sub. Code: 2964

(APRIL 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION

SEMESTER-I (PCI New regulations 2016)

PHARMACEUTICAL BIOTECHNOLOGY – MPB

PAPER IV – ADVANCED PHARMACEUTICAL BIOTECHNOLOGY

Q.P. Code : 262964

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail about cloning strategies.
2. a) Describe Microbial Biotransformation of chiral drugs and steroids.
b) Discuss various types of Biosensors.

II. Write notes on:

(7 x 5 = 35)

1. Production of amyloglucosidase.
2. Gene Library.
3. Site specified delivery of therapeutic peptides and proteins.
4. Biodegradation of Xenobiotics.
5. Production of Interferon.
6. Signaling defects and diseases.
7. Production of useful proteins in Transgenic animals.

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

[MPHARM 0422]

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

Sub. Code: 2964

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL BIOTECHNOLOGY - MPB
PAPER IV – ADVANCED PHARMACEUTICAL BIOTECHNOLOGY
Q.P. Code : 262964**

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss cloning strategies that are used for production of recombinant DNA products with an example.
2. Discuss the challenges and methods to overcome delivery of therapeutic peptides. Add a note on Human Genome Project.

II. Write notes on:

(7 x 5 = 35)

1. Gene therapy.
2. Oncogenes and its significance.
3. Biotransformation using microbes.
4. Design and applications of biosensors.
5. Classification and general properties of enzymes.
6. Production of any one enzyme.
7. Principle and applications of PCR.

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

[M.PHARM 0423]

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

Sub. Code: 2964

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New regulations 2016)
PHARMACEUTICAL BIOTECHNOLOGY - MPB
PAPER IV – ADVANCED PHARMACEUTICAL BIOTECHNOLOGY**

Q.P. Code: 262964

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss in detail Extraction, purification and production of various enzymes.
2. Explain various techniques used in the manipulation of gene expression and production of Hepatitis B vaccine by Recombinant DNA technology.

II. Write notes on:

(7 x 5 = 35)

1. Biotransformation for synthesis of chiral drugs.
2. Production of single cell protein.
3. Biodegradation of Industrial Wastes.
4. Gene cloning strategies.
5. Significance of oncogenes.
6. Biosensors and its applications.
7. Production of useful proteins in transgenic animals.
