

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

[LO 962]

MAY 2019

Sub. Code: 2962

**M.PHARM. DEGREE EXAMINATION**  
**(PCI New regulations 2016)**  
**SEMESTER-I**  
**PHARMACEUTICAL BIOTECHNOLOGY – MPB**  
**PAPER II – MICROBIAL AND CELLULAR BIOLOGY**

*Q.P. Code : 262962*

**Time : Three hours**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss with a neat labeled diagram the morphology of a bacterial cell. Add a note on bacterial reproduction.
2. a) Discuss the influence of physical and chemical factors on microbial growth.  
b) Discuss important aspects of animal cell culture and brief on their applications.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Industrially important microbes.
2. Nucleic acids and their importance.
3. Translation.
4. Lysogeny.
5. Cell division and death.
6. Cancer.
7. Pathology and therapies of few important infections.

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

[LQ 0121]

**JANUARY 2021**

**Sub. Code: 2962**

**(APRIL 2020 EXAM SESSION)**

**M.PHARMACY DEGREE EXAMINATION**

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

**PHARMACEUTICAL BIOTECHNOLOGY – MPB**

**PAPER II – MICROBIAL AND CELLULAR BIOLOGY**

***Q.P. Code : 262962***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss the central dogma of molecular biology highlighting the process of protein synthesis.
2. Discuss in detail the importance of microbial pathogenicity and the pathology related to any one bacterial and one viral disease.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Apoptosis.
2. Pure culture isolation and importance.
3. Signal transduction.
4. Animal cell culture—principle and application.
5. Cell cycle.
6. Mutation and its application.
7. Factors affecting microbial growth.

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

**[MPHARM 0422]**

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

**Sub. Code: 2962**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER-I (PCI New regulations 2016)  
PHARMACEUTICAL BIOTECHNOLOGY - MPB  
PAPER II – MICROBIAL AND CELLULAR BIOLOGY  
*Q.P. Code : 262962***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Discuss media composition of animal cell culture and add a note on their industrial applications. (7+3 Marks)  
b) Define viruses. Describe the various cultivation methods of viruses. (10Marks)
2. a) Define pure culture. Describe the isolation techniques for bacteria with neat diagram. (10 Marks)  
b) Write a note on various physical and chemical parameters, which influence microbial growth. (10 Marks)

**II. Write notes on:**

**(7 x 5 = 35)**

1. Explain pathology and treatment options for any two bacterial infections.
2. Write a note on identification methods for pathogenic bacteria.
3. Write a note on plasmids gene mapping with diagram.
4. Note on bacterial transduction and types.
5. Explain fungi reproduction methods with diagram.
6. Write a note on programmed cell death and carcinogens.
7. Note on stem cells and its applications.

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

**[M.PHARM 0423]**

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

**Sub. Code: 2962**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New regulations 2016)  
PHARMACEUTICAL BIOTECHNOLOGY - MPB  
PAPER II – MICROBIAL AND CELLULAR BIOLOGY**

*Q.P. Code: 262962*

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Structure, chemistry, morphology and reproduction of fungi and its industrial significance.
2. Gene mapping of plasmids, types, purification and its applications.

**II. Write notes on:**

**(7 x 5 = 35)**

1. Preservation of culture.
2. Theory of central dogma.
3. Transcription.
4. Actinomycetes.
5. Stem cells and its applications.
6. Cytotoxicity assays.
7. Etiology and pathology of common microbial diseases.

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

**[M.PHARM 0823]**

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

**Sub. Code: 2962**

**M.PHARMACY DEGREE EXAMINATION  
SEMESTER - I (PCI New Regulations 2016)  
PHARMACEUTICAL BIOTECHNOLOGY - MPB  
PAPER II – MICROBIAL AND CELLULAR BIOLOGY**

***Q.P. Code: 262962***

**Time : Three hours**

**Answer ALL Questions**

**Maximum : 75 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Structure of Nucleus, Nucleic acids, composition, Types of RNA and DNA.
2. Identification of pathogenic microbes, mechanism of microbial pathogenicity, etiology and pathology of common fungal infections.

**II. Write notes on**

**(7x5=35)**

1. Applications of cell cultures in pharmaceutical industry and research.
2. Programmed cell death.
3. G-protein coupled receptors.
4. In-vitro Fertilization.
5. RNA splicing.
6. Differentiate between prokaryotes and eukaryotes.
7. Phage mutation.

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