

(LO 2035)

MARCH 2019

Sub. Code: 2035

**B.PHARM. DEGREE EXAMINATION**  
**PCI Regulation – SEMESTER III**  
**PAPER III – PHARMACEUTICAL MICROBIOLOGY**

*Q.P. Code: 562035*

**Time: Three hours**

**Maximum: 75 Marks**

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

1. Discuss various preservation methods of Pure culture.
2. Give a detailed note on cultivation of Viruses in laboratory.
3. Explain the types of Laminar air flow equipment and its operating principles with suitable diagram.

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

1. Explain briefly about the structures internal to bacterial cell wall with diagram.
2. Write the principle and procedure of Gram staining method.
3. Indole production test.
4. Write a note on Radiation sterilization.
5. Classification of Fungi.
6. Explain briefly about the various factors influencing disinfectant action.
7. What is Minimum Inhibitory Concentration? Explain the assay of Antibiotics by Turbidimetric method.
8. Write a note on various sources and types of Microbial contaminants.
9. Application of Primary cell culture.

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

1. Tyndallization.
2. Classification of bacteria based on temperature.
3. Use of culture media.
4. Principle of Acid fast staining method.
5. Dry heat sterilization.
6. What is Chick-Martin test?
7. Distinguish Antiseptics and Disinfectants.
8. Give the principle of Microbial assay.
9. Any two factors affecting Microbial spoilage.
10. Transformed cell culture.

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(LP 2035)

SEPTEMBER 2019

Sub. Code: 2035

**B.PHARM. DEGREE EXAMINATION**  
**PCI Regulation – SEMESTER III**  
**SECOND YEAR**  
**PAPER III – PHARMACEUTICAL MICROBIOLOGY**

*Q.P. Code: 562035*

**Time: Three hours**

**Maximum: 75 Marks**

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

1. Explain how microscopic methods (staining techniques) help in the identification of micro-organism.
2. Explain the different factors affecting the microbial spoilage of pharmaceutical products.
3. Explain the importance of sterilization indicators used for the evaluation of the efficiency of sterilization methods.

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

1. Explain the classification of disinfectant.
2. Scope and application of Microbiology.
3. State the methods of preservation of microbial cultures.
4. Microbial assay of Antibiotics.
5. Explain about moist heat sterilization.
6. Write on sterility test of pharmaceutical products.
7. Define Phenol coefficient test. Explain Chick Martin's test.
8. Classify micro-organisms depending on temperature with examples.
9. Explain the principle, procedure and interpretation of Voge-Proskauer test.

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

1. List the functions of bacterial capsule.
2. Mycolic acid.
3. Unique property of agar as a solidifying agent.
4. Sex pili.
5. Growth curve.
6. Add a note on distribution pattern of flagella.
7. Define sanitizers and Antiseptic.
8. Membrane filter.
9. Give two examples each of fungicidal and virucidal agents.
10. Primary cell culture.

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

[LR 0121]

**JANUARY 2021**

**Sub. Code: 2035**

**(MARCH 2020 EXAM SESSION)**

**B. PHARMACY DEGREE EXAMINATION**

**PCI REGULATION – SEMESTER III**

**PAPER III – PHARMACEUTICAL MICROBIOLOGY**

***Q.P. Code: 562035***

**Time: Three hours**

**Maximum: 75 Marks**

**I. Elaborate on: Answer any TWO questions.**

**(2 x 10 = 20)**

1. Define Sterilization and explain in detail about Sterilization by Radiation and Chemical agents.
2. Discuss Microbiological assay of Antibiotics.
3. Explain the evaluation of Disinfectants.

**II. Write notes on: Answer any SEVEN questions.**

**(7 x 5 = 35)**

1. Describe the nutritional requirements and physical conditions required for Bacterial growth.
2. Explain viable count of Bacteria.
3. Explain about the Lytic cycle.
4. Explain in detail about the factors influencing disinfection action.
5. Discuss the different sources of contamination in an Aseptic area.
6. Explain in detail about media used for Animal cell culture.
7. Explain the types of Microbial spoilage.
8. Describe the Gram staining technique with examples.
9. Explain about Sterility indicators.

**III. Short answers on: Answer ALL questions.**

**(10 x 2 = 20)**

1. Define Generation time with examples.
2. What is Fumigation?
3. Define Bacteriophage.
4. Give examples for Acid-fast bacteria.
5. Laminar Air Flow.
6. What are the media used for Sterility test?
7. Classify Bacteria based on flagella arrangements.
8. Define Cell line with examples.
9. Give examples of preservatives used for the preparation of pharmaceutical products.
10. What is moist heat sterilization?

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

**[BPHARM 0921]**

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

**Sub. Code: 2035**

**B.PHARM. DEGREE EXAMINATION  
PCI Regulation 2017 – SEMESTER III  
PAPER III - PHARMACEUTICAL MICROBIOLOGY**

***Q.P. Code: 562035***

**Time: Three hours**

**Maximum: 75 Marks**

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

1. What is Differential staining? Explain in detail about the Acid fast staining method.
2. Define Disinfectants. Classify them and give a descriptive note on mode of action of disinfectants.
3. What is Spoilage? Write down the various factors affecting the spoilage of Pharmaceutical products.

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

1. Explain the morphological classification of Bacteria with suitable diagram.
2. Explain briefly about the nutritional requirements of Bacteria.
3. Cultivation method of Anaerobes.
4. Methyl Red test.
5. Write a note on Moist heat sterilization method.
6. Explain Phenol coefficient test?
7. Explain briefly about the different sources of contamination in an Aseptic area.
8. Assay of Antibiotics by cup plate or cylinder plate method.
9. Give the applications of cell cultures in Pharmaceutical industry and Research.

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

1. Prokaryotes.
2. Functions of Pili.
3. Endospores.
4. Generation time.
5. Physical Indicators.
6. Disinfectant.
7. List some sterile Pharmaceutical products.
8. What is Sterility test?
9. Give any two importance of Aseptic technique.
10. Classification of Clean area.

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

**[BPHARM 0122]**

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

**Sub. Code: 2035**

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)**

**PCI Regulation 2017 – SEMESTER III**

**PAPER III - PHARMACEUTICAL MICROBIOLOGY**

***Q.P. Code: 562035***

**Time: Three hours**

**Maximum: 75 Marks**

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

1. Draw and describe the structure of Bacteria and give the function of each part.
2. Define Disinfectant. Describe factors affecting the choice of Disinfectant.
3. What are different methods of Sterilization? Explain in detail about filtration sterilization and give its applications.

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

1. Differentiate between Gram +ve and Gram –ve bacterial cell.
2. Explain the principles and method of Microbiological assay of Antibiotics.
3. Explain the Bacterial growth curve with a neat diagram.
4. What are enriched, selective, and differential media? Give example for each.
5. Sources of contamination in Aseptic area.
6. Designing of Aseptic area.
7. Preservation of pharmaceutical products.
8. Electron microscopy.
9. Write the preservation methods of pure Culture.

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

1. Differentiate between Slime layer and Capsule.
2. Write the significance of Flagella.
3. Rideal-Walker test.
4. Sporulation.
5. State the reason for using cedar wood oil under 100x objective.
6. D-Value.
7. Acid fast stain.
8. Pasteurization.
9. Bacteriophage.
10. Biological indicators.

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

**[BPHARM 0522]**

**MAY 2022  
(SEPTEMBER 2021 EXAM SESSION)**

**Sub. Code: 2035**

**B.PHARM. DEGREE EXAMINATION  
PCI Regulation 2017 – SEMESTER III  
PAPER III - PHARMACEUTICAL MICROBIOLOGY  
*Q.P. Code: 562035***

**Time: Three hours**

**Maximum: 75 Marks**

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

1. Define sterilization. Explain physical method of sterilization.
2. What is a disinfectant? Evaluation of bacteriostatic disinfectants.
3. Draw and describe the Morphology of Bacteria and give the function of each part of Bacteria

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

1. Electron microscopy
2. Types of spoilage
3. Principle of gram staining technique
4. Sterilization by Filtration
5. IMViC test
6. Bacterial Growth curve
7. Isolation of pure culture technique
8. Sterility indicators
9. Life cycle of virus

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

1. Spore
2. Contamination
3. Flagella
4. Fumigation
5. Physical indicators
6. Grams staining
7. Virus
8. Viable count
9. Fungi
10. Biological indicators.

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

**[BPHARM 1022]**

**OCTOBER 2022  
(MARCH 2022 EXAM SESSION)**

**Sub. Code: 2035**

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)**

**PCI Regulation 2017 – SEMESTER III**

**PAPER III - PHARMACEUTICAL MICROBIOLOGY**

***Q.P. Code: 562035***

**Time: Three hours**

**Maximum: 75 Marks**

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

1. Explain briefly Morphology and reproduction of fungi with labeled diagram.
2. Discuss about Rideal walker coefficient test
3. Write in detail about Microbial assay of antibiotics.

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

1. Principle and working of Laminar air flow cabinet.
2. Factors affecting disinfectants.
3. Grams Staining technique.
4. Morphological classification of bacteria.
5. Bacterial growth curve.
6. How to find Minimum inhibitory concentration?
7. Microbial Stability of formulations.
8. Microbial contamination and spoilage.
9. Applications cell culture in research.

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

1. Define virus.
2. Define sterilization.
3. Total and viable count.
4. Flagella.
5. Plasmid.
6. Extinction time.
7. Aseptic area.
8. Cell culture.
9. Anaerobes.
10. Examples of disinfectants.

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