

[LH 0815]

AUGUST 2015

Sub.Code :2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY**

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Classify the prokaryotic and Eukaryotic Microorganisms that cause respiratory Infections.
2. Define Sterilization and elaborate on sterilizations methods routinely used in Hospitals.
3. Describe systemic pathology of blood vessels and lymphatics.

II. Write Notes on:

(8 x 5 = 40)

1. Community Acquired Pneumonia.
2. Diagnosis of Mycobacterium tuberculosis.
3. H1N1 virus.
4. Common Upper Respiratory Infections caused by Bacteria.
5. Aspergillus.
6. General features of Inflammation.
7. Different types of bacterial toxins.
8. Acquired immunity.

III. Short Answers on:

(10 x 3 = 30)

1. Scarlet fever.
2. Define Hospital Acquired Infection.
3. Thrombophlebitis.
4. Disinfectant.
5. Laryngitis.
6. Oral thrush.
7. Acid Fast Stain.
8. Colonization.
9. Etiology of Empyema.
10. Mycoplasma pneumoniae infection.

[LI 0216]

FEBRUARY 2016

Sub.Code :2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY**

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Classification of medically importance Microorganisms.
2. Sterilization methods.
3. Acute and Chronic Inflammation.

II. Write Notes on:

(8 x 5 = 40)

1. Laboratory diagnosis of pulmonary tuberculosis.
2. Active immunity.
3. Asepsis.
4. Infection Control in Intensive Care Units.
5. Microorganisms causing Respiratory tract infections.
6. Hospital Acquired Pneumonia.
7. Natural Killer Cells.
8. Autoimmunity.

III. Short Answers on:

(10 x 3 = 30)

1. Multidrug Resistance.
2. Normal Microbial flora of Respiratory Tract.
3. Pathogenesis.
4. Antiseptics.
5. Transudates.
6. Endothelial cells.
7. Gram Stain.
8. Vasculitis.
9. Diphtheria.
10. Anaerobic bacteria.

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Enumerate the components of a bacterial cell. Differentiate the cell wall of gram positive and gram negative cell wall with suitable diagrams.
2. Classify the physical agents of sterilisation. Describe the principle, mechanism of working and uses of the autoclave. Write about its sterilisation control.
3. Describe the various methods of transmission of disease with suitable examples.

II. Write Notes on:

(8 x 5 = 40)

1. Bacterial spore.
2. Testing of disinfectants.
3. Smear microscopy for diagnosis of tuberculosis.
4. Legionnaire's disease.
5. Standard precautions.
6. Apoptosis.
7. Etiological agents of lower respiratory tract infections.
8. Biomedical waste segregation.

III. Short Answers on:

(10 x 3 = 30)

1. Personal protective equipment.
2. Volutin granules.
3. What is plasma sterilization? Give two examples.
4. Mantoux test.
5. C Reactive protein.
6. Write three types of flagellar arrangement with examples.
7. Classify bacteria based on their shape.
8. Name three methods of dry heat sterilization.
9. Ghon focus.
10. Name three cellular adaptations to stress.

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define disinfection. List the various disinfectants in common use in hospitals. Describe gaseous disinfectants in detail and their applications.
2. Define health care associated infection. Enumerate the risk factors, common infecting organisms of pneumonia in a health care setting. What are the measures to prevent these infections?
3. Describe the morphology, cultural characteristics and laboratory diagnosis of Mycobacterium tuberculosis.

II. Write Notes on: **(8 x 5 = 40)**

1. Bacterial toxins.
2. Bacterial appendages.
3. Carriers.
4. Ethylene oxide sterilization.
5. Candidiasis.
6. General features of inflammation.
7. Irreversible cell injury.
8. Whooping cough.

III. Short Answers on: **(10 x 3 = 30)**

1. Revised National Tuberculosis Control program.
2. High level disinfection.
3. Define Droplet infection. Give two examples.
4. Plasmids.
5. Negative staining.
6. Inclusion bodies.
7. Caseous necrosis.
8. Fimbriae.
9. Give three examples of chemicals that induce cell injury.
10. Tyndallisation.

[LL 0817]

AUGUST 2017

Sub.Code :2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY**

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Define and classify infections. Describe the various sources of infections with suitable examples.
2. Describe the factors predisposing to virulence of bacteria.
3. Enumerate the physical and chemical agents used in sterilisation. Describe dry heat sterilisation methods and their applications.

II. Write Notes on:

(8 x 5 = 40)

1. BCG vaccine.
2. Aspergillosis.
3. Bacterial capsule.
4. Differentiate prokaryotic and eukaryotic cells with examples.
5. Aspergilloma.
6. Primary atypical pneumonia.
7. Differentiate reversible and irreversible cell injury.
8. Causes of inflammation.

III. Short Answers on:

(10 x 3 = 30)

1. Define airborne infection. Give two examples.
2. Endotoxins.
3. Define Endemic and Pandemic. Give an example each.
4. Acid fast stain.
5. Name three species of Chlamydia.
6. Wool sorter's disease.
7. Name three mediators of inflammation.
8. Name three diseases with granulomatous inflammation.
9. List three differences between gram positive and gram negative bacteria.
10. Quellung reaction.

[LM 0218]

FEBRUARY 2018

Sub. Code: 2602

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about the bacterial anatomy with suitable diagram.
2. What is chemical sterilization? Discuss its classification and some common agents used in hospital setup.
3. Explain in detail about chronic obstructive lung disease.

II. Write Notes on:

(8 x 5 = 40)

1. Bacterial Flagella.
2. Necrosis.
3. Name the causative agents of Tuberculosis. Discuss why it is endemic in our country and list the preventive measures undertaken?
4. Explain about chronic inflammation.
5. Write about agents causing Respiratory infections.
6. Cell death.
7. Define sterilization. Explain in detail about “Hot air sterilization”, with neat labelled diagram.
8. Disease of Pleura.

III. Short Answers on:

(10 x 3 = 30)

1. What is the role of health care workers in preventing transmission of infections?
2. Causes of cell injury.
3. Types of cellular adaptations.
4. Any two functions of infection control committee.
5. Gram's stain.
6. Congenital anomalies of lung.
7. Bacille Calmette Gurein.
8. Define obstructive lung disease.
9. Cold sterilization.
10. Define Reversible cell injury.

[LN 0818]

AUGUST 2018

Sub. Code: 2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY**

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Define sterilization. And notes on physical methods.
2. Discuss in detail the morphology, pathogenesis and Lab diagnosis of Mycobacterium tuberculosis.
3. Describe in detail about cell injury.

II. Write Notes on:

(8 x 5 = 40)

1. Chemical method of sterilization.
2. Apoptosis.
3. Complication and treatment of Enteric fever.
4. Atrophy.
5. Different types of bacterial toxin.
6. Swine flu.
7. Acute inflammation.
8. Community acquired pneumonia.

III. Short Answers on:

(10 x 3 = 30)

1. Scarlet fever.
2. Arteriosclerosis.
3. Disease of Pleura
4. Oral thrush
5. Gram negative bacilli.
6. Define Hospital acquired infections.
7. Stages of chronic inflammation.
8. Function of lymphatics .
9. Define Bacteraemia and Septicaemia.
10. Hyperplasia.

[LP 0819]

AUGUST 2019

Sub. Code: 2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY**

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Define Disinfection. Ennumerate the disinfectants used in hospitals and discuss in detail about gaseous disinfection.
2. Elaborate on bacterial anatomy with suitable diagram.
3. Define Gangrene. Write in detail about the types of gangrene.

II. Write Notes on:

(8 x 5 = 40)

1. Lab diagnosis of tuberculosis.
2. Aspergillus
3. Write in detail about coal workers pneumoconiosis.
4. Different types of bacterial toxins.
5. Acquired immunity.
6. Hospital acquired pneumonia.
7. Define necrosis. What are the types of necrosis?
8. Apoptosis.

III. Short Answers on:

(10 x 3 = 30)

1. Thrombophlebitis
2. Etiology of Empyema.
3. Pneumothorax.
4. Hazards of smoking.
5. Bronchogenic carcinoma.
6. Irreversible cell injury.
7. Classify bacteria based on their shape.
8. Revised National Tuberculosis Control Programme.
9. Negative staining.
10. Bacille Calmette Gurein.

[LQ 0220]

FEBRUARY 2020

Sub. Code: 2602

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER II – MICROBIOLOGY AND PATHOLOGY

Q.P. Code: 802602

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Define sterilization. Write in detail about the sterilization procedures routinely done in hospitals.
2. Describe the various methods of transmission of disease with suitable examples.
3. Describe in detail about mycobacterium tuberculosis, giving emphasis to its morphology, cultural characteristics and lab diagnosis.

II. Write Notes on:

(8 x 5 = 40)

1. General features of inflammation.
2. What is asepsis?
3. Write in detail about lymphocytes.
4. Define and write about the types of carriers.
5. Candidiasis.
6. Write and draw bacterial flagellae.
7. Agents causing respiratory tract infection.
8. Innate immunity.

III. Short Answers on:

(10 x 3 = 30)

1. Multidrug resistance.
2. Normal microbial flora of the respiratory tract.
3. Metaplasia.
4. Gram stain.
5. Mantoux test.
6. Reversible cell injury.
7. Name three cellular adaptations to stress.
8. Any two functions of infection control committee.
9. Define emphysema and mention the types of emphysema.
10. Congenital anomalies of lung.

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

[AHS 0321]

MARCH 2021

Sub. Code: 2602

(AUGUST 2020 EXAM SESSION)

B.Sc. RESPIRATORY THERAPY

FIRST YEAR (Regulation 2014-2015)

PAPER II – MICROBIOLOGY AND PATHOLOGY

Q.P. Code : 802602

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Classify the prokaryotic and Eukaryotic micro organisms that causes Respiratory infections?
2. Define disinfection and use of chemical disinfectants in the hospital.
3. Define inflammation, briefly explain about acute stage of inflammation.

II. Write Notes on:

(8 x 5 = 40)

1. Factors affecting the bacterial growth.
2. Cellular adaptations.
3. Candidiasis.
4. Pathogenesis of atherosclerosis.
5. Hospital acquired infections.
6. Stages of irreversible injury.
7. Acid fast staining.
8. Discuss any one condition of restrictive lung disease.

III. Short Answers on:

(10 x 3 = 30)

1. Gas sterilization methods.
2. Define Obstructive lung disease.
3. Bacterial growth curve.
4. Describe about special care for respiratory equipments.
5. Define atrophy.
6. Tyndallization.
7. Define necrosis.
8. Layers of arterial blood vessels.
9. Mantoux test.
10. Inflammatory signs.

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

[AHS 0422]

APRIL 2022

Sub. Code: 2602

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSIONS)

B.Sc. RESPIRATORY THERAPY

FIRST YEAR (Regulations 2014-2015)

PAPER II- MICROBIOLOGY & PATHOLOGY

Q.P NO. 802602

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on : (3X10=30)

1. What is Disinfection? Classify various levels of Disinfections. Describe in detail about the various disinfectants used in the Hospital. Add a note on evaluation methods for disinfectants.
2. List out the various fungal organisms causing Respiratory tract infections. Describe in details about the Pathogenesis, Clinical features, Laboratory diagnosis of Bronchopulmonary aspergillosis.
3. Classify Mycobacteria. Describe in detail about Pathogenesis, Clinical features, laboratory diagnosis, management of Pulmonary tuberculosis.

II. Write Notes on : (8X5=40)

1. Cellular adaptation.
2. Influenza viral infection.
3. Laboratory diagnosis of Enteric fever.
4. Mechanism of Atherosclerosis.
5. Chemical gas sterilization.
6. Functions of T and B lymphocytes.
7. Post exposure prophylaxis.
8. Bacterial motility.

III. Short Answers on : (10X3=30)

1. Acute phase proteins.
2. Inflammation of the Lymphatic vessels.
3. Bacterial spores.
4. Acute inflammation.
5. Mention any three clinical applications of Gram staining method.
6. Demonstration of bacterial capsule.
7. Malignancies of Respiratory tract.
8. List out the differences between Exotoxin and Endotoxin.
9. Clostridial Myonecrosis.
10. Pleural effusion.

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

[AHS 1122]

NOVEMBER 2022

Sub. Code: 2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulation 2014-2015)
PAPER II – MICROBIOLOGY & PATHOLOGY
Q.P NO. 802602**

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on :

(3X10=30)

1. Define Biomedical Waste management. Describe in detail about the segregation, transportation and disposal of Biomedical Wastes. Add a note on legal implications of Biomedical Waste Management.
2. List out the different sources of Hospital Associated Infections. Elaborate on the routine surveillance testing carried out in a tertiary care hospital. Add a note on Sterilisation of Respiratory Intensive Care unit.
3. Explain in detail about acute and chronic inflammation.

II. Write Notes on :

(8X5=40)

1. Natural killer cells.
2. Normal Microbial flora.
3. Innate immunity.
4. Bacterial drug resistance.
5. Antigen antibody reactions.
6. Aspergillosis.
7. Apoptosis.
8. Pertussis infection.

III. Short Answers on :

(10X3=30)

1. Pneumococcal Vaccine.
2. Granulomatous infections.
3. Cultivation of Anaerobic organisms.
4. Evaluation methods for disinfectants.
5. Mention any three differences between Gram Positive and Gram Negative Cell wall.
6. Needle stick injury.
7. Functions of lymphatics.
8. Bacterial Flagella.
9. Mention any three differences between Active and Passive Immunity.
10. Uses of N95 face mask.

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

[AHS 0423]

APRIL 2023

Sub. Code: 2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER II– MICROBIOLOGY & PATHOLOGY
Q.P. Code: 802602**

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on :

(3X10=30)

1. Classify the medically important Microorganisms with neat diagram.
2. Explain the methods of Disinfection with various examples.
3. Write briefly on Acute and Chronic Inflammation.

II. Write Notes on :

(8X5=40)

1. Explain the pathogenicity of pulmonary tuberculosis.
2. Explain Immunity.
3. Explain Asepsis.
4. Explain the Infection control methods used in Intensive Care Units.
5. Respiratory tract infections and its etiology.
6. Hospital Acquired Pneumonia and its treatment.
7. Reversible Cell Injury.
8. Brief note on Autoimmunity.

III. Short Answers on :

(10X3=30)

1. Tuberculin Skin Test.
2. Difference between Lower Respiratory Tract and Upper Respiratory Tract infection.
3. Define Sterilization.
4. Name three methods of Transmission of Diseases.
5. Incubator and its uses.
6. Endothelial cells.
7. Principle of Gram's Stain.
8. Cell death.
9. Pathogenicity of Diphtheria.
10. Name few Anaerobic bacteria.

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 2602

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)**

PAPER II- MICROBIOLOGY & PATHOLOGY

Q.P. Code: 802602

Time: Three Hours

Answer All questions

Maximum: 100 Marks

I. Elaborate on : (3 X 10 = 30)

1. Define Disinfection. Describe Various Disinfectants used in a Hospital.
2. Describe Biomedical Waste Segregation and Disposal in a Hospital.
3. Describe in detail Acute and Chronic Inflammation.

II. Write Notes on : (8 X 5 = 40)

1. Lab diagnosis of *Corynebacterium diphtheriae*.
2. Describe the principle, advantages and disadvantages of an Autoclave.
3. Bacterial capsule.
4. Chronic Obstructive Pulmonary disease.
5. Acquired Immunity.
6. Airborne infections -Isolation, precaution.
7. Pathogenesis and clinical features of Primary Atypical Pneumonia.
8. Acute Laryngitis.

III. Short Answers on : (10 X 3 = 30)

1. Enumerate three diseases of Pleura.
2. Describe Vasculitis with example.
3. ARDS (Acute Respiratory Distress Syndrome).
4. Name three infections produced by *Streptococcus pneumoniae*.
5. Acid Fast Stain.
6. List out various forms of cellular adaptations with example.
7. Bacterial plasmids.
8. Give three differences between Eukaryotic and Prokaryotic cells.
9. Hepatitis B Vaccine.
10. Give three differences between Reversible and Irreversible Cell Injury.

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

[AHS 0424]

APRIL 2024

Sub. Code: 2602

B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER II- MICROBIOLOGY & PATHOLOGY
Q.P. Code: 802602

Time: Three Hours

Answer All questions

Maximum: 100 Marks

I. Elaborate on : **(3 X 10 = 30)**

1. Explain in detail about Chronic Obstructive Lung disease.
2. Define Sterilisation. Classify different methods of Sterilisation. Describe in detail about the chemical methods of Sterilisation.
3. Classify the different types of Pneumonia. List out the etiological agents causing Pneumonia. Describe in detail about clinical features, laboratory diagnosis and management of Hospital Acquired Pneumonia.

II. Write Notes on : **(8 X 5 = 40)**

1. Diseases of Pleura.
2. Functions of T lymphocytes.
3. Obstructive and Restrictive Pulmonary diseases.
4. Pathogenesis and lab diagnosis of COVID-19 viral infection.
5. Hospital infection control.
6. Tuberculin test.
7. Types of Necrosis.
8. Fungal infections of Respiratory tract.

III. Short Answers on : **(10 X 3 = 30)**

1. Name any three antiseptics.
2. Epitheloid cells.
3. Congenital anomalies of lung.
4. Multi drug resistant tuberculosis.
5. Bacterial growth curve.
6. Type I Hypersensitivity.
7. Causes of Cell injury.
8. Acid fast stain.
9. HEPA filters used in laboratories.
10. Universal precautions.

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

[AHS 1125]

NOVEMBER 2025

Sub. Code: 2602

B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER II– MICROBIOLOGY & PATHOLOGY
Q.P. Code: 802602

Time: Three Hours

Answer All questions

Maximum: 100 Marks

I. Elaborate on :

(3 x 10 = 30)

1. Define Reversible and Irreversible cell injury.
2. Elaborate on bacterial anatomy with suitable diagram.
3. Explain in detail the infection of eukaryotic pathogens responsible for Respiratory infection.

II. Write notes on:

(8 x 5 = 40)

1. Explain Mantoux test.
2. Explain Aspergillosis.
3. Congenital anomalies of Lung.
4. Different types of bacterial toxins.
5. Explain various mode of transmission of disease.
6. Hospital acquired pneumonia.
7. Define Necrosis. What are the types of Necrosis?
8. Apoptosis.

III. Short answers on:

(10 x 3 = 30)

1. Define Thrombophlebitis.
2. Uses of Bacillus Calmette-Guerin.
3. Pneumothorax.
4. Differentiate Flagella and pili.
5. List three COPD (Chronic Obstructive Pulmonary Disease).
6. Pleural effusion and its causes.
7. Classify bacteria based on their shape.
8. What is the selective medium used for Mycobacterium growth?
9. Explain cellular adaptation.
10. Etiology of Empyema.
