

[LH 0815]

AUGUST 2015

Sub.Code :2601

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. The blood supply and nerve supply of the heart with relevant diagram.
2. Difference between right and left lung. Mention the segments of the lungs.
3. Explain heart sounds and auscultatory areas of the heart and its significance.

II. Write Notes on:

(8 x 5 = 40)

1. Difference between the right and left ventricle.
2. Mention the lung volumes and capacities.
3. Pericardium.
4. Arch of aorta.
5. Chemical control of respiration.
6. Waldeyer's ring.
7. Define work of breathing, resistance and cardiac rhythm.
8. Write about the Vital signs and its significance.

III. Short Answers on:

(10 x 3 = 30)

1. Write a few points about pleura.
2. What is ventricular depolarisation?
3. Mention the muscles of respiration.
4. Interatrial septum.
5. Applied anatomy of the lungs.
6. What is trachea?
7. Name the surfactant present in the alveoli. What is its function?
8. How many segments are there in the lungs? What is mediastinum?
9. Difference between S.A node and A.V. node?
10. Chronic obstructive pulmonary disease. (COPD).

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY

Q.P. Code: 802601

Time: Three Hours

Maximum : 100 Marks

Answer All questions

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

1. Define blood pressure. Write the physiological and pathological variations.
2. Surface markings of the lungs.
3. Write in detail about the pericardium with suitable diagram.

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

1. Nervous control of respiration.
2. Electrocardiography (ECG).
3. Diaphragm, attachment, nerve supply and applied anatomy.
4. Right atrium.
5. Pleura.
6. Bronchial tree.
7. Anatomy of the upper respiratory tract.
8. Dissociation curve.

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

1. Define cardiac output.
2. Write three differences between right and left ventricle.
3. Sibson's fascia.
4. What is Trabeculae carnae and muscoli pectinate?
5. Name the veins of the heart.
6. Bronchial asthma.
7. Cardiac tamponade.
8. Work of breathing and O₂ cascade.
9. What are Purkinje fibres? What is its importance?
10. Cardiac muscle fibre.

[LJ 0816]

AUGUST 2016

Sub. Code: 2601

B.Sc. RESPIRATORY THERAPY

FIRST YEAR

PAPER I – ANATOMY AND PHYSIOLOGY

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Explain Diaphragm under the following subdivisions: (a) Origin (b) Insertion (c) Blood supply (d) Nerve supply (e) Action (f) Orifices present (g) Structures passing through it (h) Applied anatomy.
2. Explain pleura under the following subdivisions: (a) definition (b) Pleural Membranes, (c)Pleural Cavities (d) parts (e) Functions (f) Clinical significance.
3. Explain cardiac cycle in detail.

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

1. Explain about right lung in detail.
2. Add a notes on mechanism of respiration.
3. Valves of the heart.
4. Fetal circulation.
5. Blood supply and nerve supply of respiratory system.
6. Heart sounds.
7. Larynx.
8. Root of the lungs.

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

1. Define mediastinum.
2. Define blood pressure and give the normal value.
3. Mention any four lung volumes.
4. Write a few points about pleura.
5. Define ECG.
6. What is meant by tracheostomy?
7. Emphysema.
8. Pneumonia.
9. Atherosclerosis.
10. Pacemaker.

[LK 0217]

FEBRUARY 2017

Sub. Code: 2601

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. With a neat diagram explain the Anatomy of lungs. Add a note on its functions.
2. Write in detail the regulation of Respiration. Define Tidal volume and Residual volume.
3. Describe in detail about Broncho pulmonary segments.

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

1. Write about the Vital signs and its significance.
2. Write a note on physiological and pathological variations of cardiac output.
3. Explain pleura and pleural recess.
4. Name the muscles involved in respiration and add a notes on diaphragm.
5. Explain about right atrium of heart.
6. Renin angiotensin mechanism.
7. Auscultatory areas.
8. Explain Arch of aorta and name its branches.

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

1. Name the valves present in heart.
2. Patent ductus arteriosus.
3. Surfactant.
4. Aneurysm.
5. Sudden infant death syndrome (SIDS).
6. Opening of diaphragm.
7. Left coronary artery.
8. Cystic fibrosis.
9. Define hemodynamics.
10. Vagal tone.

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Describe the internal features of the right atrium with a suitable diagram and add a note on the blood supply to the heart.
2. Write an essay on the transport of oxygen and carbon dioxide.
3. Describe diaphragm under the following headings:
 - a) Attachments
 - b) Openings and structures passing through it
 - c) Nerve supply
 - d) Actions
 - e) Applied anatomy

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

1. Chemical regulation of respiration.
2. What do you mean by work of breathing, airway resistance and compliance?
3. Describe the conducting system of the heart.
4. Describe the baroreceptors.
5. Describe the trachea.
6. Describe the fetal circulation.
7. Describe the right lung.
8. Describe the pleura.

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

1. Define tidal volume. Give its normal value.
2. Name the muscles of inspiration and expiration.
3. Dead space.
4. List the factors affecting blood pressure.
5. Name the pacemaker of the heart. Why is it called the pacemaker of the heart?
6. Name the veins draining the heart.
7. Nerve supply to larynx.
8. Structures seen in nasopharynx.
9. Pulmonary circulation.
10. Pericardium.

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Describe the external features of the heart with a suitable diagram and add a note on its blood supply.
2. Write an essay on the various phases of the cardiac cycle.
3. Describe the lungs under the following headings:
a) External features b) Hilum of the lung c) Applied anatomy.

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

1. Describe the heart sounds.
2. Describe the various lung volumes and capacities.
3. Describe the neural regulation of respiration.
4. Describe the chemoreceptors.
5. Paranasal air sinuses.
6. Tracheobronchial tree.
7. Describe the pericardial lining of the heart.
8. Major openings of the diaphragm with structures passing through it.

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

1. List the various ways in which carbon dioxide is transported in the blood?
2. Hyaline membrane disease.
3. Define Dalton's law, Boyle's law and Henry's law.
4. Caisson's disease.
5. List the auscultatory areas of the heart and mention their locations.
6. Name the cartilages of the larynx.
7. Conducting system of the heart.
8. Openings of middle meatus.
9. Superior vena cava.
10. Name the valves of the heart.

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Describe the situation, external features and chambers of the heart in detail with a suitable diagram.
2. Describe the neural and chemical regulation of respiration.
3. Describe the parts of the pleura, pleural recesses and its functions. Add a note on its applied anatomy.

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

1. Secretion, functions and disorders affecting surfactant.
2. Oxygen haemoglobin dissociation curve.
3. Ventricular action potential.
4. Draw an ECG and mark the different waves.
5. Write the differences between right and left lung.
6. Describe the blood supply of the heart.
7. Describe the bronchopulmonary segments.
8. Describe the attachment, nerve supply and actions of diaphragm.

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

1. List the causes for obstructive and restrictive lung diseases.
2. Define vital capacity. Give its normal value.
3. List the different layers of the respiratory membrane.
4. Give the normal values for blood pressure, pulse rate and respiratory rate.
5. List the factors affecting cardiac output.
6. Name the cavities of the larynx.
7. Name the coverings of the heart.
8. Name the branches of arch of aorta.
9. Name the intercostal muscles.
10. Name any 3 paranasal sinuses.

B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Define blood pressure. Write its normal value. How will you measure BP?
Write in detail about the variations in BP?
2. Write in detail about the nervous regulation of respiration.
3. Explain in detail about the pleura, its reflexions, pleural recesses and its clinical significance.

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

1. Conducting system of heart.
2. Fetal circulation.
3. Physiological and Pathological variations of cardiac output.
4. Respiratory and non respiratory functions of the lung.
5. Blood supply of the heart with a neat diagram.
6. Surface markings of the lung.
7. External and internal features of left ventricle.
8. Paranasal sinuses.

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

1. Fissures and lobes of the lung.
2. Layers of the heart.
3. Auscultatory areas of the heart.
4. Carina and its importance.
5. Tidal volume and its normal value.
6. Respiratory muscles.
7. Different waves of ECG with a diagram.
8. Various forms in which CO₂ is transported?
9. Dextrocardia.
10. Bronchial asthma.

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Explain in detail about the different phases of cardiac cycle with a neat diagram.
2. Define cardiac output. Write about the factors influencing cardiac output.
3. Draw a neat diagram of the lung describing (a) external features
(b) Hilum of the lung (c) Root of the lung.

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

1. Carbondioxide transport.
2. Heart sounds.
3. Long term regulation of Blood pressure.
4. Neural regulation of respiration.
5. External and internal features of Right atrium.
6. Nervous control of heart.
7. Pericardium.
8. Oxygen dissociation curve.

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

1. Define vital capacity. Mention its normal value.
2. Respiratory unit.
3. Name the valves of the heart and its location.
4. Normal values of heart rate, respiratory rate and blood pressure.
5. Coronary artery and its dominance.
6. Borders of the heart.
7. Superior vena cava.
8. Name the laryngeal cartilages.
9. Pacemaker of the heart.
10. Pleural effusion.

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER I – ANATOMY AND PHYSIOLOGY**

Q.P. Code: 802601

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Explain in detail about the chambers of the heart with neat diagram.
2. Describe in detail about the Bronchopulmonary segments with a neat diagram.
3. Explain in detail about O₂ transport and oxygen dissociation curve.

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

1. Lung volumes and Capacities with a well labeled diagram.
2. Chemical regulation of respiration.
3. Baroreceptors and its role in regulation of Blood pressure.
4. Electrocardiogram and its uses.
5. Diaphragm its attachment, nerve supply and its role in respiration.
6. Pleura and pleural recesses.
7. Venous drainage of heart.
8. Surface marking of the boundaries of the heart.

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

1. List the causes of obstructive and restrictive lung disorders.
2. Define compliance.
3. Surfactant and its functions.
4. Define Cardiac output. What is its normal value?
5. Define hypoxia. Name the types of hypoxia.
6. Boundaries and divisions of mediastinum.
7. Arch of aorta and its branches.
8. Name the paranasal sinuses.
9. Trachea.
10. Angina pectoris.

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

[AHS 0321]

MARCH 2021

Sub. Code: 2601

(AUGUST 2020 EXAM SESSION)

B.Sc. RESPIRATORY THERAPY

FIRST YEAR (Regulation 2014-2015)

PAPER I – ANATOMY AND PHYSIOLOGY

Q.P. Code : 802601

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Draw a diagram and describe the external features of the heart. Add a note on its blood supply.
2. Describe the attachments, openings with structures passing through, nerve supply and actions of the diaphragm.
3. Discuss the transport of oxygen from the lungs to the tissues.

II. Write notes on:

(8 x 5 = 40)

1. Conducting system of heart.
2. Bronchopulmonary segments.
3. Discuss the physiology of the normal electrocardiogram (ECG).
4. Interior of right ventricle.
5. List the various lung volumes and capacities.
6. Discuss the mechanics of breathing.
7. Describe the chemical control of respiration.
8. Discuss the role of the baroreceptors in maintaining blood pressure.

III. Short answers on:

(10 x 3 = 30)

1. Parietal pleura.
2. Surface marking of lungs.
3. Describe the maxillary air sinus.
4. What is the effect of parasympathetic stimulation to the heart?
5. What is meant by REM Sleep?
6. List the cause of the first and second heart sounds.
7. What is meant by pulse pressure?
8. What are the accessory muscles of respiration?
9. What is meant by the term compliance of the lung?
10. What is meant by the term hypoxia? Give two causes.

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

[AHS 0422]

APRIL 2022

Sub. Code: 2601

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSIONS)

B.Sc. RESPIRATORY THERAPY

FIRST YEAR (Regulations 2014-2015)

PAPER I- ANATOMY & PHYSIOLOGY

Q.P NO. 802601

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on : (3X10=30)

1. Write in detail about the Surface marking of Lungs. Discuss the difference between Right and left lung.
2. Write in detail about the regulation of Respiration. Define Tidal volume and Residual volume.
3. Describe the Blood supply of Heart under following headings
a) Arterial supply b) Venous drainage c) Anastomosis of coronary artery
d) Applied anatomy.

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

1. Renin-angiotensin mechanism.
2. Bronchopulmonary segments.
3. Define Hypoxia. Name the types of hypoxia.
4. Arch of aorta.
5. Electrocardiography(E.C.G).
6. Pleural recesses.
7. Major openings of Diaphragm with structures passing through it.
8. Chemoreceptors.

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

1. Define Mediastinum.
2. Superior vena cava.
3. Angina Pectoris.
4. Root of lung.
5. REM Sleep.
6. Sibson's Fascia.
7. Auscultatory area of Heart.
8. Define Haemodynamics.
9. Carina and its importance.
10. List the factors affecting cardiac output.

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

[AHS 1122]

NOVEMBER 2022

Sub. Code: 2601

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulation 2014-2015)
PAPER I – ANATOMY & PHYSIOLOGY
Q.P NO. 802601**

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on : (3X10=30)

1. Describe the anatomy of Pleura, pleural recesses and its function. Add a note on its applied anatomy.
2. Describe the Internal features of Right atrium with a suitable diagram. Add a note on the Blood supply to Heart.
3. Define cardiac cycle. Describe in detail the changes that occur in different phases of cardiac cycle with suitable diagram.

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

1. Bronchial tree.
2. Lung volumes.
3. Pericardium.
4. Oxygen dissociation curve.
5. Root of lung.
6. Conducting system of Heart.
7. Fetal circulation.
8. Factors regulating cardiac output.

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

1. Name the muscles of Inspiration and Expiration.
2. Layers of Heart.
3. Structures seen in Nasopharynx.
4. Functions of surfactant.
5. Fissures and lobes of Lung.
6. Dead space.
7. Stages of sleep.
8. Interatrial septum.
9. Vagal tone.
10. Define arterial blood pressure.

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

[AHS 0423]

APRIL 2023

Sub. Code: 2601

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

Paper I – ANATOMY & PHYSIOLOGY

Q. P. Code: 802601

Time: Three hours

Maximum : 100 Marks

Answer ALL Questions

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

1. Describe the Blood supply and Nerve supply of the Heart with suitable diagram.
2. Explain Diaphragm under the following subdivisions:
(a) Origin (b) Insertion (c) Blood supply (d) Nerve supply
(e) Action (f) Orifices present (g) Structures passing through it
(h) Applied anatomy.
3. How is the process of Respiration Regulated? Add a note on Periodic Breathing.

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

1. Difference between the Right Ventricle and Left Ventricle.
2. Pleural recesses and Functions of Pleura.
3. Tracheobronchial tree.
4. Surface marking of Lungs.
5. Conducting system of Heart.
6. Secretion, functions and disorders affecting Pulmonary surfactant.
7. Airway resistance, compliance and work of breathing.
8. Hypoxia and its types.

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

1. Define Mediastinum and mention the structures present in it.
2. Tracheostomy.
3. Name the branches of Arch of Aorta.
4. Structures seen in Nasopharynx.
5. Inter atrial septum.
6. List the forms in which Oxygen is transported in the Blood.
7. List the factors affecting Cardiac output.
8. REM sleep.
9. Define Vital capacity. Give its Normal value.
10. Location and functions of Baroreceptors.

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 2601

B.Sc. RESPIRATORY THERAPY

FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)

PAPER I – ANATOMY & PHYSIOLOGY

Q. P. Code: 802601

Time: Three hours

Maximum : 100 Marks

Answer ALL Questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the location, external features and chambers of the Heart in detail with a suitable diagram.
2. Write in detail about Lungs. Add a note on Bronchopulmonary segments.
3. Define Blood Pressure. Give the Normal Values. How is Blood Pressure Regulated?

II. Write notes on:

(8 x 5 = 40)

1. Muscles of Respiration.
2. Anatomy and Functions of Paranasal Air Sinuses.
3. Chambers of Heart.
4. Pleura.
5. Heart sounds.
6. Lung volumes and Capacities.
7. Oxygen Dissociation Curve.
8. Conducting system of Heart.

III. Short answers on:

(10 x 3 = 30)

1. Carina and its importance.
2. Diaphragm.
3. Vital signs.
4. Pericardium.
5. Cardiac tamponade.
6. Heart sounds.
7. List the forms in which Carbon dioxide is transported in the Blood.
8. Define Cardiac output. Give its Normal Value.
9. Electro Cardiogram (ECG).
10. Name the stages of Sleep.

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

[AHS 0424]

APRIL 2024

Sub. Code: 2601

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER I – ANATOMY & PHYSIOLOGY
Q. P. Code: 802601**

Time: Three hours

Answer ALL Questions

Maximum : 100 Marks

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

1. Write in detail about Pericardium with a suitable diagram. Add a note on Sinuses of Pericardium.
2. Describe the external features of Lungs. Write in detail about Bronchopulmonary segments.
3. Describe the Oxygen transport from Lungs to Tissues.

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

1. Pulmonary circulation.
2. Valves of the Heart.
3. Trachea.
4. Lung volumes and capacities.
5. Paranasal air sinuses.
6. Waldeyer's ring.
7. Factors affecting cardiac output.
8. Waves and segments in ECG.

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

1. What is Surfactant? Write its functions.
2. What is dead space?
3. Areas of Auscultation.
4. Name the cartilages of Larynx.
5. Dextrocardia.
6. Parts of conducting system of Heart.
7. Branches of Arch of Aorta.
8. Respiratory membrane.
9. Write the Normal values of Heart rate, Respiratory rate and Blood pressure.
10. Chronic Obstructive Pulmonary Disease (COPD).

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

[AHS 1125]

NOVEMBER 2025

Sub. Code: 2601

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER I – ANATOMY & PHYSIOLOGY
Q. P. Code: 802601**

Time: Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Name the major blood vessels of the Heart. Describe superior vena cava in detail. Add a note on pulmonary circulation.
2. Describe the lung compliance and explain the factors affecting it.
3. Define Blood Pressure. Describe the short-term regulation of blood pressure.

II. Write notes on:

(8 x 5 = 40)

1. Classification and uses of Pulmonary function test.
2. Indications and objectives of Cardiopulmonary Resuscitation.
3. Electrocardiography.
4. Anatomy of Trachea.
5. Conducting system of Heart.
6. Mediastinal surface of right lung.
7. Nasal septum.
8. Cardiac plexuses.

III. Short answers on:

(10 x 3 = 30)

1. Muscles of Respiration.
2. Draw and label the features of typical rib.
3. Name the intrinsic muscles of larynx.
4. Lingula of left lung.
5. Costo diaphragmatic recess.
6. Define Shock and classify it.
7. Pulse pressure.
8. Cardiac output.
9. Heart sounds.
10. Dead space.
