Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 13-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

INTRODUCTION TO RESPIRATORY CARE TECHNOLOGY (RS2)

Q.P. CODE: 1239

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Chest physiotherapy
2. Oxygen therapy
3. Universal precautions, isolation and personal protective equipment

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Examination of pulse
5. Topography of chest
6. Auscultation of chest
7. Colour coding of medical gas supply
8. Aerosol therapy
9. Humidification of gases
10. Sterilization and disinfection
11. Pulse oximetry
12. Glassgow coma scale
13. Basic life support
14. Peak expiratory flow rate
15. Extra corporeal membrane oxygenation
    Or
    Incentive spirometry
16. Post-bronchodilator testing of lung function
17. ABG analysis

SHORT ANSWERS (Answer any Ten) **10 x 2 = 20 Marks**

18. Symptoms of cardiovascular system
19. Examination of skin
20. Boyle's law
21. Specific gravity
22. Reducing valve
23. Causes of obstructive pattern on PFT
24. Charl's law
25. Deep breathing exercise
26. Drugs used in nebulization therapy
27. Mallampatti score
28. FEV1
29. Laryngeal mask airway

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 08-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

Introduction to Respiratory Technology (RS-3)

Q.P. CODE: 3359

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. A patient becomes unresponsive while giving chest physiotherapy. Write your action on this scenario.
2. Universal precaution. Explain in detail.
   OR
   Humidity and Aerosol therapy.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Airway clearance methods.
4. Bland aerosol therapy.
5. Extracorpoeral membrane oxygenation.
   OR
   Oxygen analyzers.
6. Manual resuscitators – types, parts, indications and techniques.
7. **Pulmonary edema.**
   Or
   Hyperbaric oxygen theraphy
8. **Obesity hypoventilation syndrome – definition, clinical features and management.**
   Or
   Central venous cannulation
9. Intercostal drains and tubes – principle, indication, setup.
10. Vital signs.
    OR
    Tracheostomy – definition, indications, types, complications.
11. Nebulizers – types and explain each.
12. Aids to endotracheal intubation.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Glasgow coma scale score.
14. Pre and post bronchodilator test.
15. Advanced airway adjuncts.
16. Boyle’s law, Gay-Lussac’s law, Dalton’s law of partial pressure.
17. Pulse oximetry.
18. Colorimetric end-tidal determination.
19. Complications and hazards of hyperbaric oxygen therapy.
20. Ari entertainment system.
21. Thorpe tube.
22. Normal saline.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 13-May-2025

Time: Three Hours **Max. Marks: 100**

PHARMACOLOGY (RS-3)

Q.P. CODE: 3398

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Classify drugs used in Bronchial Asthma. Discuss in detail about the drug therapy of status Asthamaticus
2. Classify Local Anesthetics. Discuss the various techniques of Local Anesthetics

   OR

   Classify antitubercular drugs. Discuss the mechanism of action, therapeutic uses and adverse effects of Rifampicin

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Therapeutic uses of calcium channel blockers
4. Amiodarone
5. Warfarin

   OR

   Nitroglycerine
6. Centrally acting skeletal muscle relaxants
7. Therapeutic uses and adverse effects of Gentamicin
8. Second generation antihistamines
9. Ketamine
10. Diazepam

    OR

    Dantrolene sodium
11. Bioavailability
12. Ondansetron

SHORT ANSWER **10 x 3 = 30 Marks**

13. Name three drugs used in cough
14. Name three lipid lowering agents
15. Name three Benzodiazepines
16. Name two potassium channel openers and mention its one use
17. Rationale of using adrenaline in anaphylactic shock
18. Mention three contraindications for morphine
19. Mention three uses of aspirin
20. Mention three advantages of doxycyline over tetracycline
21. Name three diuretics
22. Mention three adverse effects on long term use of glucocorticoids

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 15-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

Medicine Relevant to Respiratory Technology (RS-3)

Q.P. CODE: 3360

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Chronic obstructive pulmonary disease.
2. Mention clinical features, diagnosis and complications of aortic aneurysm.
   OR
   Discuss sepsis: Definition, etiology, diagnosis and treatment.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Central sleep apnea.
4. Interstitial lung disease.
5. GB syndrome: Definition, clinical presentation and management.
   OR
   Drowning.
6. Explain treatment of aortic aneurysm.
7. Management of cardiogenic shock.
8. Berlin definition and cause of ARDS.
9. Asthma.
10. Pathogenesis of Upper airway obstruction and obstructive sleep apnea.
    OR
    Abnormal breath sounds.
11. Pleural effusion.
12. General management of TB.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Clinical features of peripheral vascular disease.
14. ASV (Adaptive Support Ventilation).
15. Cheyne stokes breathing.
16. Cyanosis.
17. Differentiate between anabolic and catabolic steroids.
18. DPI (Dry Powder Inhaler).
19. Difference between primary and secondary hypertension.
20. Mention three causes of aortic aneurysm.
21. Atelectasis.
22. Organisms causing VAP.

****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 23-May-2025

Time: Three Hours **Max. Marks: 50 Marks**

Applied Pathology (RS-3)

Q.P. CODE: 3396

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3396 and 3397 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe etiopathogenesis, pathology and complications of Emphysema.
2. Discuss the pathology and complications of Heart failure.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

3. Megaloblastic anemia.
4. Acute pericarditis.
5. Pulmonary edema.
6. Coal workers pneumoconiosis.
7. Pulmonary tuberculosis.
8. Cardiomyopathy.

SHORT ANSWER **5 x 3 = 15 Marks**

9. Morphological classification of anaemia.
10. Three causes of Hemolytic Anemia.
11. Transfusion related acute lung injury.
12. Fallot's Tetrology.
13. Good pasture syndrome.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 23-May-2025

Time: Three Hours **Max. Marks: 50**

Applied Microbiology (RS-3)

Q.P. CODE: 3397

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note: Both QP Codes 3396 and 3397 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. What are Hepatotropic viruses? Write a note on them and explain Hepatitis B Virus in detail?
2. Describe disinfection of instruments used in patient care. Explain advantages and disadvantages of various methods

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

3. Vancomycin resistant Enterococci
4. Universal Precautions
5. Cytomegalovirus infection
6. Air sampling methods
7. Gaseous Sterilization
8. Uses of Autoclave

SHORT ANSWER **5 x 3 = 15 Marks**

9. Hand washing Techniques
10. Incineration
11. Name three DNA viruses
12. Hot air oven
13. Name three Gram negative bacteria

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 30-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

Introduction to Respiratory Technology (RS-3)

Q.P. CODE: 3359

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Oxygen therapy – Indication and methods of oxygen delivery equipment's.
2. Pulmonary function test. Describe obstructive and restrictive with graph.
   OR
   Lung expansion therapy.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Post cardiac arrest management.
4. Predictors of difficult airway.
5. Isolation procedures.
   OR
   V\Q Mismatch.
6. Bronchoscopy – Indication, types, contraindication, monitoring and complication.
7. Hazards associated with manual resuscitators.
8. Chest compliance and resistance.
9. Hypoxia-definition, types and management.
10. Chest physiotherapy.
    OR
    Hand washing techniques.
11. End tidal capnography.
12. Continuous positive airway pressure.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Wright's spirometry.
14. Oxygenation index.
15. Contraindications of chest physiotherapy.
16. Residual volume.
17. Passive Humidifier.
18. Pre and post bronchodilator test.
19. Type and complications of suctioning.
20. Goals of oxygen therapy.
21. Abnormal breath sounds.
22. Laryngeal mask airway and its variants.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Oct-2025

Time: Three Hours **Max. Marks: 50 Marks**

Applied Pathology (RS-3)

Q.P. CODE: 3396

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note: Both QP Codes 3396 and 3397 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Define chronic obstructive airway diseases and enlist the types. Discuss the etiopathogenesis and morphologic features of Emphysema.

2. Define and classify anemia. Discuss the laboratory diagnosis of Iron deficiency anemia.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

3. Describe the pathology and complications of mitral stenosis.
4. Discuss the etiopathogenesis of pulmonary edema.
5. Describe the morphological features of Myocardial Infarction.
6. Discuss the laboratory tests to diagnose bleeding disorders.
7. Describe briefly the types of primary cardiomyopathy.
8. Discuss the causes, effects and diagnosis of pericardial effusion.

SHORT ANSWER **5 x 3 = 15 Marks**

9. Peripheral smear findings of chronic myeloid leukemia.
10. Define hypertension and mention the types.
11. List three differences between obstructive and restrictive pulmonary disease.
12. List three causes of Microcytic anemia.
13. Enumerate the causes of secondary Polycythemia.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Oct-2025

Time: Three Hours **Max. Marks: 50 Marks**

Applied Microbiology (RS-3)

Q.P. CODE: 3397

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note: Both QP Codes 3396 and 3397 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe the layout of central sterile supply department (CSSD) with special note on floor plan for instrument cleaning and sterilizing area. Add a note on its function.

2. List communicable viral infections that infects healthcare workers in hospitals. Describe in detail about morphology and laboratory diagnosis of Human Immuno Deficiency virus (HIV). Add a note on its prevention.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

3. Disinfection of instruments used in patient care.
4. Hepatitis B virus – Morphology and precautions to prevent infection.
5. Describe the morphology and mode of spread of Ebola virus.
6. Blood culture for salmonella infections.
7. Air sampling method.
8. List infections caused by oro-faecal route. Add a note on its preventive method.

SHORT ANSWER **5 x 3 = 15 Marks**

9. Vancomycin resistant Enterococi.
10. Prevention of mycobacterium tuberculosis infections.
11. Name three gaseous disinfectants.
12. Name three healthcare associated infections.
13. Name three pathogens causing catheter related urinary tract infection.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 06-Nov-2025

Time: Three Hours **Max. Marks: 100 Marks**

Medicine Relevant to Respiratory Technology (RS-3)

Q.P. CODE: 3360

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Chronic obstructive pulmonary disease, etiology, pathophysiology and management.
2. **Guillain barre syndrome**
   OR
   Aortic aneurysm.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Interstitial lung disease and management.
4. VAP.
5. Shock : Explain any two.
   OR
   Dyspnea – definition, grading, diagnosis and management.
6. General management of TB.
7. Non-Steroidal Anti-Asthma Agents.
8. Anatomic alterations, pathophysiology and general management of Asthma.
9. Intercostal drain.
10. Atelectasis.
    OR
    Classification of bronchodilators.
11. Describe briefly on sleep disorders.
12. Pathophysiology of left ventricular failure.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Cyanosis.
14. Name any three anticholinergic bronchodilators.
15. General management of pulmonary edema.
16. Flail chest.
17. Anti-hypertensive drugs.
18. Metered dose inhaler.
19. Grades of hypertension.
20. GINA guidelines.
21. Types of shock.
22. Signs and symptoms of pneumothorax.

*****