Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 14-Jan-2022

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 the causes, pathology and complications of Valvular heart diseases.
2. Define and classify anaemias. Discus in detail hemolytic anemia and its laboratory diagnosis.

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

3. Pleural effusion causes and lab diagnosis.
4. Pathogenesis of Hypertension.
5. Laboratory tests used to diagnose bleeding disorders.
6. Peripheral blood findings in chronic myeloid leukemia.
7. Pathogenesis of pulmonary edema.
8. Cardiomyopathy causes and clinical significance.

SHORT ANSWER 5 x 3 = 15 Marks

9. Define pneumoconiosis. Mention its types.
10. Agranulocytosis.
11. Bleeding time and clotting time.
12. List four morphological features of Bronchial asthma
13. Tetralogy of Fallot.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 14-Jan-2022

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. Enumerate the different health care associated infections. Describe in detail pathogenesis and laboratory diagnosis of pulmonary tuberculosis.
2. Define sterilization. Explain in detail about moist heat method of sterilization.

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

3. Human deficiency virus (HIV) – Morphology and methods of prevention.
4. Hepatitis B virus – morphology and mode of prevention.
5. Gaseous method of sterilization.
6. Ventilator associated pneumonia.
7. Mechanism of drug resistants.
8. Disinfection of patient care unit.

SHORT ANSWER 5 x 3 = 15 Marks

9. Name three pathogenesis causing respiratory care infections.
10. Needlestick injuries.
11. Prevention of transmission of tuberculosis in healthcare workers.
12. Name three viruses causing blood borne infection.
13. How to sterilize a) Stethoscopes b) Optical instruments c) Pen.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 19-Jan-2022

Time: Three Hours | Max. Marks: 100 Marks

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. Explain the mechanism of action of local anaesthetics. Write a note on the side effects and precautions to be taken while using them. Give four examples.
2. Write a note on the mechanism of action, therapeutic uses, side effects and contraindications of gentamicin.
   OR
   Discuss the factors modifying drug action.

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

3. Antiemetics.
4. Cardioplegic drugs.
5. Thrombolytics.
   OR
   Spironolactone.
6. Chemoprophylaxis.
7. Bland aerosols in respiratory care.
8. Halothane.
9. Verapamil.
10. Peripheral vasodilators.
    OR
    Write a brief note on the pharmacological protection of organs during CPB.
11. Penicillins.
12. Classify immunosuppressive agents. Mention their uses and adverse effects.

SHORT ANSWER 10 x 3 = 30 Marks

13. Uses of diazepam.
14. Name three loop diuretics.
15. Adverse effects of heparin.
16. Name three lipid lowering agents.
17. Bioavailability.
18. Clinical uses of potassium chloride.
19. Uses and adverse effects of salbutamol.
20. Uses of adrenaline.
21. Name three antianginal drugs.
22. Name three H_1 antihistamines.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Dec-2022

Time: Three Hours | Max. Marks: 100

INTRODUCTION TO RESPIRATORY CARE TECHNOLOGY (RS-2)

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. Write in detail on non-diagnostic test to measure TLC, FRC, RV
2. Write a note on oxygen therapy devices
3. Write a note on humidity therapy devices

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

4. Write a note on Electro Cardiography (ECG)
5. Write in detail on oxygen therapy complications
6. Write in detail about cylinders
7. Write in detail on oxygen concentrators
8. Write a note on small volume nebulizers
9. Write a note on physiology of humidification therapy
10. Write a note on indications and contraindications of oxygen therapy
11. Write a note on chest x-ray
12. Write a note on oxygen cascade
13. Write a note on retinopathy of prematurity
14. Write a note on bronchial hygiene therapy
15. Write a note on chest topography
16. Write in details on Spirometry
17. Write a note on Aerosol delivery devices

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

18. Boyles law
19. Respiratory system examination
20. Colour coding of cylinders
21. Indications of oxygen therapy
22. ECG
23. Flow meters
24. LMA
25. Hand-washing technique
26. Oxygen therapy hazards
27. Normal breath sounds
28. Auscultation of chest
29. GCS

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 30-Dec-2022

Time: Three Hours Max. Marks: 80 Marks

MEDICINE RELEVANT TO RESPIRATORY CARE TECHNOLOGY (RS2)
Q.P. CODE: 1240

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. What do you mean by respiratory failure? Mention its types.
2. What do you mean by pneumonia? What are the signs and symptoms of pneumonia?
3. What do you mean by chronic bronchitis? How do you treat a patient with chronic bronchitis?

SHORT ESSAYS (Answer any Eight) 8 x 5 = 40 Marks

4. How do you assess respiratory failure?
5. Mention about ischemic heart disease.
6. How do you manage respiratory failure?
7. What do you mean by sepsis?
8. What do you mean by cardiogenic shock?
9. What do you mean by atypical pneumonia?
10. What do you mean by acute lung injury?
11. What do you mean by hospital acquired pneumonia?
12. How do you treat a patient with pneumonia?
13. What do you mean by occupational lung diseases?

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

14. **Causes of Pleural Effusion**
15. What are the symptoms of hypertension?
16. How do you diagnose lung abscess?
17. What is status epilepticus?
18. How do you treat Gullian-barre syndrome?
19. **Pleural space**
20. What is status asthmaticus?
21. What are the main causes of hypertension?
22. How do you treat a patient with sepsis?
23. What is myasthenia gravis?
24. Respiratory problems in children.
25. Treatment for septic shock.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 17-Jan-2022

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. Surgical airway devices – Indication, contraindications, procedure, complications and hazards.
2. Write in detail about diagnosis procedures in measuring RV, TLC and FRC.
   OR
   Write in detail about electrochemical oxygen analyzers and its functional diagram.

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

3. Criteria for NIV.
4. Methacholine challenge.
5. Peak inspiratory and expiratory flow meters – indications, techniques and contraindication.
   OR
   Extubation.
6. Capnography.
7. Intrapulmonary percussive ventilation.
8. Oxygen toxicity.
9. DLCO (Carbon monoxide diffuse capacity of LUNG).
10. Personal protective gears.
    OR
    Mallampatti classification with diagram.
11. Automated external defibrillation – Indications, technique, special consideration.
12. Bag valve mask ventilation – flow and self inflating.

SHORT ANSWER 10 x 3 = 30 Marks

13. Oxygen therapy devices.
14. Dalton's law of partial pressure.
15. Physiology of Heat and moisture exchanger.
16. FRC.
17. Bernoulli's principle.
18. Central v/s peripheral cyanosis.
19. Oxygen uptake.
20. Variable extrathoracic loop.
21. Huffing.
22. Goals of oxygen therapy

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 21-Jan-2022

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. Respiratory insufficiency and respiratory failure. Classification, background, pathophysiology and management.
2. Acute respiratory distress syndrome.
   OR
   Shock: Definition, classification, pathophysiology and general management.

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

3. Hypertension.
4. Lung volume reduction surgery.
5. Traumatic Brain Injury.
   OR
   Envenomation.
6. Obstructive sleep apnea.
7. VAP.
8. GB syndrome.
9. Metered dose inhaler.
10. Pathophysiology of left ventricular failure.
    OR
    Pathophysiology of pulmonary edema.
11. Classification of Bronchodilators.
12. Intercostal Drain.

SHORT ANSWER 10 x 3 = 30 Marks

13. Differentiate between anabolic and catabolic steroids.
14. Pulmonary Edema: Definition, types and treatment.
15. Hypovolemic shock.
16. Pulmonary complication in Rheumatoid Arthritis.
17. GINA guidelines.
18. Atelectasis.
19. Mention few gram positive and gram negative bacteria causing pneumonia.
20. Grades of Dyspnea.
21. Claudication pain.
22. Anatomic alteration of lung in Bronchiectasis.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 18-Jul-2022

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. Discuss the pathology of Granulomatous Diseases of Lung.
2. Describe the etiopathogenesis and pathology of Rheumatic Heart Disease.

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

3. Pulmonary hypertension.
4. Community acquired Pneumonia.
5. Bronchial asthma.
6. Congestive splenomegaly.
7. Pathology of Myocarditis.
8. Ischemic Heart Disease.

SHORT ANSWER 5 x 3 = 15 Marks

9. Causes of Neutrophilia.
10. Microscopy of myocardial infarction.
11. Peripheral smear findings in Megaloblastic Anemia.
12. Polycythaemia.
13. Hyaline membrane disease.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 18-Jul-2022

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. Enumerate different healthcare associated infections. Add a note on catheter related blood stream infections.
2. Define sterilization. List different methods of sterilization. Explain in detail about sterilization. Explain in detail about sterilization by autoclaving. Add a note on sterilization control.

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

3. Central sterile supply department (CSSD) layout.
4. Describe the various sampling techniques.
5. Hepatitis B virus – Morphology and mode of transmission and prevention.
6. Methicillin Resistant Staphylococcus Aureus (MRSA) infections detection and prevention.
7. Infection control measures in Intensive Care Unit (ICU).
8. Classification of patient care instruments based on risk of infection associated with it.

SHORT ANSWER 5 x 3 = 15 Marks

9. Name three respiratory tract infections.
10. Name three bacteria causing urinary tract infections.
11. Morphology of Pneumococcus.
12. How to sterilize following Bronchoscope, pen book.
13. Varicella – Zoster virus – modes of transmission.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 22-Jul-2022

Time: Three Hours | Max. Marks: 100 Marks

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 various routes of drug administration. Write the advantages and disadvantages of inhalational route of drug administration.

2. Classify antihypertensive drugs. Write the mechanism of action, therapeutic uses and adverse effects of Propranolol
   OR
   Classify anti-asthma drugs. Write the mechanism of action, therapeutic uses and adverse effects of Salbutamol.

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

3. Write a note on the properties of an ideal aerosol. Name the diseases for which aerosol therapy is given.
4. Mechanism of action, uses and adverse effects of Frusemide.
5. Drugs used in electrolyte imbalance.
   OR
   Drugs used in status asthmaticus.
6. Mechanism of action, therapeutic uses and adverse effects of Isoniazid.
7. Name third generation, cephalosporins. Write their mechanism of action and uses.
8. Mechanism of action, therapeutic uses and adverse effects of Nitric acid.
9. Uses and adverse effects of Succinylcholine.
10. Mention second generation antihistamines and their uses.
    OR
    Classify corticosteroids. Write their adverse effects.
11. Mechanism of action, uses and adverse effects of Lignocaine.
12. Classify drugs used in shock. Write the mechanism of action and uses of any one of them.

SHORT ANSWER 10 x 3 = 30 Marks

13. Mention three nasal decongestant drugs.
14. Name three calcium channel blockers.
15. Treatment of hypersensitivity reactions.
16. Management of morphine overdose.
17. Mention three anti tussives.
18. Mention management of alcohol over dosage.
19. Mention three anti-platelet drugs.
20. Mention three adverse effects of aminoglycoside antibiotics.
21. Name three inhalational corticosteroids.
22. Name any three Beta-2 agonists.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 22-Jul-2022

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. Write in detail on assessment of respiratory system
2. Write a note on oxygen therapy devices
3. Write a note on bronchoprovocation test, its relative, absolute contraindication and its procedure

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

4. Write a note on HME and its types
5. Write in detail on chest topography
6. Write in detail on MDI and its techniques to use them
7. Write in detail on bubble humidifies and what is bubble burst?
8. Write a note adventitious lung sound
9. Write in detail on retinopathy of prematurity
10. Write a note on oxygen cascade
11. Write in detail on universal precautions
12. Write a note on types of flowmeters
13. Write in detail small volume nebulizer
14. Write a note on medical gas pipeline system and station outlets
15. Write the difference between a AP view and a PA view on a chest x-ray
16. Write note on postural drainage
17. Forced vital capacity maneuver and plot a normal flow volume loop with its variables

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

18. Charles law and gay lussacs law
19. MMAID
20. Indications of bronchial hygiene therapy
21. Hand washing technique
22. Flow volume loop on mild, moderate, severe obstruction
23. Bernoulli's principle and venturis
24. Cold Freon effect
25. Palpation in assessment of respiratory system
26. Normal and abnormal heart sounds
27. Indication for oxygen therapy
28. Assessment of vital signs
29. Normal ECG

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 25-Jul-2022

Time: Three Hours | Max. Marks: 80 Marks

MEDICINE RELEVANT TO RESPIRATORY CARE TECHNOLOGY (RS2)

Q.P. CODE: 1240

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. Explain myasthenia gravis.
2. Explain occupational lung diseases.
3. Explain about the diseases of pleura, Mediastinum and chestwall.

SHORT ESSAYS (Answer any Eight) 8 x 5 = 40 Marks

4. What is mean by acute respiratory distress syndrome?
5. How do you treat chronic bronchitis?
6. What is mean by emphysema?
7. What is ventilator-associate pneumonia?
8. What is mean by AIDS?
9. What is status epilepticus?
10. Management of acute hypoxemic respiratory failure.
11. Explain Gullian-barre syndrome.
12. What are the risk factors associated with diabetes mellitus?
13. What is mean by toxic inhalation?

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

14. Explain lung abscess.
15 What is pulmonary edema?
16. What do you mean by sepsis?
17. How do you treat hypovolemic shock?
18. What is mean by atypical pneumonia?
19. What are the common viral and fungal infections?
20. How do you treat toxic inhalation?
21. How to prevent hospital acquired pneumonia?
22. How do you treat tropical Eosinophilia?
23. How do you diagnose ARDS?
24. How do you treat type 2 respiratory failure?
25. How do you diagnose COPD?

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 20-Jul-2022

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. Indications, procedure, contraindications and complications of endotracheal intubation.
2. Write a short note on capnometry, indications, types and principles.
   OR
   Bland aerosol therapy indications, equipments and selection of appropriate therapy.

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

3. Mechanical insufflation ensufflation – cough assist.
4. Mechanism of coughing.
5. Ventilation perfusion ratio.
   OR
   Discuss in brief about advanced cardiac life support and steps.
6. Discuss in brief about incentive spirometry and Acapella device.
7. Discuss in brief about Extracorporeal life support.
8. Bronchoscopy – types, parts, indications and contraindications, explain briefly about sterilization of bronchoscopes.
9. Advantages and disadvantages of metered dose inhalers and dry powder inhalers.
10. Discuss in brief about pulmonary function testing in children.
    OR
    Methacholine challenge test.
11. How do you ensure proper placement of endotracheal tube?
12. Discuss in brief about body plethysmography.

SHORT ANSWER 10 x 3 = 30 Marks

13. Alveolar gas equation and oxygenation index.
14. Glasgow coma scale.
15. Breathing valves.
16. Define Maximal Voluntary ventilation and describe technique to perform in Spirometer.
17. Cricothyroidotomy – Indications and procedure in brief.
18. State – Avogadro law, combined gas law and Dalton's law.
19. Give three agents used for sputum induction and three complications.
20. Fenestrated tracheostomy tube – Diagram and one indication.
21. Define the following with diagram – Tidal volume, Residual volume, Inspiratory reserve volume.
22. Parts of endotracheal tubes.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 25-Jul-2022

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. Define COPD. Write a note on its aetiology, pathophysiology, diagnosis and management.
2. Describe etiology, pathophysiology, clinical features and management of Pleural effusion.
   OR
   Define and classify shock. Describe pathophysiology and general management of Cardiogenic shock.

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

3. Bronchiectasis – etiology and management.
4. Aortic stenosis.
5. Emerging role of respiratory therapist in pulmonary vascular disorders.
   OR
   Drowning.
6. Ischemic stroke.
7. Pathophysiology of left ventricular failure.
8. Antitubercular treatment.
9. Coal workers lung disease.
10. Cardiac workers lung disease.
    OR
    Principles of ventricular assist device.
11. Central sleep apnea.
12. Flail chest.

SHORT ANSWER 10 x 3 = 30 Marks

13. Mention the phases of ARDS.
14. Name three organisms which causes of pneumonia in immunocompromised patient.
15. Pulmonary edema – Definition and types.
16. Name three causes of Haemoptysis.
17. Anatomic alterations of the lung in a Atelectasis.
18. Indications for mechanical ventilation in Gullian Barre Syndrome.
19. GINA guidelines.
20. Pectus Carinatum.
21. Pulmonary complications in Rheumatoid arthritis.
22. Unstable angina.

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