Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 29-May-2024

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 pneumoconiosis. Discuss the pathogenesis and morphology of coal-workers pneumoconiosis.
2. Define hypertension. Discuss the pathogenesis of hypertension.

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

3. Discuss the laboratory findings of Iron deficiency anemia.
4. Describe the etiopathogenesis of Bronchiectasis.
5. Define polycythemia. Discuss the laboratory findings of polycythemia.
6. Describe the etiopathogenesis and enumerate the complications of Myocardial Infarction.
7. Discuss the pathophysiology and laboratory diagnosis of Acute leukemia.
8. Discuss procedure for estimating bleeding time.

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

9. List the morphological types of Emphysema.
10. List three causes of pericardial effusion.
11. List three causes of mitral stenosis.
12. List the types of cardiomyopathies.
13. List the causes of Eosinophilia.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 29-May-2024

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. Define and classify disinfection. Describe the disinfection of instruments used in patient care

2. Enumerate the organisms transmitted through blood. Describe the morphology, laboratory diagnosis and prevention of HIV

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

3. Hand hygiene
4. Catheter related urinary tract infections
5. MRSA – detection and prevention
6. Principles and uses of autoclave
7. Hepatitis B vaccine
8. Describe the sampling techniques

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

9. Name three organisms known to cause health care associated infections
10. Name three specimen collected for the laboratory diagnosis of tuberculosis
11. Surface surveillance
12. Sterilisation control in hot air oven
13. Name three organisms spread by respiratory route

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 06-Jun-2024

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 sedative hypnotics. Write the mechanism of action, therapeutic uses and adverse effects of Benzodiazepines.

2. Classify anti-adrenergic drugs. Write the mechanism of action, therapeutic uses and adverse effects of Propranolol.

   OR

   Classify general anaesthetics. Write the mechanism of action and adverse effects of inhalational anaesthetics.

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

3. Mention the management of acute asthma.
4. Mechanism of action, uses and adverse effects of Penicillins.
5. Opioid analgesics – mechanism of action and its uses.

   OR

   Explain bioavailability and factor affecting it with suitable examples.
6. Mechanism of action, therapeutic uses and adverse effects of Rifampicin.
7. What is drug antagonism? Explain the types with suitable examples.
8. Mechanism of action, therapeutic uses and adverse effects of mast cell stabilizers.
9. Mechanism of action, uses and adverse effects of thiazide diuretics.
10. Mention inhalational corticosteroids and their adverse effects.

    OR

    Classify plasma expanders. Explain how will you manage anaphylactic shock.
11. Mechanism of action, uses and adverse effects of Tetracyclines.
12. Write the advantages and disadvantages of Intravenous route of drug administration.

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

13. Mention three antiplatelet drugs.
14. Name three drugs used in chronic obstructive pulmonary diseases.
15. Name three uses of Chloramphenicol.
16. Management of Warfarin over dosage.
17. Mention difference between zero order kinetics and first orders kinetics.
18. Mention three antihistaminic drugs.
19. Mention three antianxiety drugs.
20. Mention the treatment of alcohol dependence.
21. Name three uses of Aminoglycoside antibiotics.
22. Mention three Immunosuppressive agents.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 06-Jun-2024

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. ECG – Basic principles, normal ECG, interpretation.
2. Bland aerosol therapy.
3. Chest physiotherapy.

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

4. Gas laws, state of matter.
5. General appearance and sensorium.
6. Identification of imaginary lines of chest X-ray.
7. Types of humidifiers.
8. Bronchodilators.
9. Oxygen toxicity.
10. Flow meter.
11. Hand washing, isolation procedures.
12. Oxygen administration devices.
13. Cardio vascular functions.
14. Small volume nebulizer therapy.
15. Air components.
16. Hazards of aerosol therapy.
17. Assessment of respiratory system.

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

18. Heated humidifier.
19. Heart block.
20. Types of hypoxia.
21. **Types of oral airways.**
22. Define humidity therapy.
23. Assessment of respiratory system.
    Or
    Colour code of medical gas cylinder.
24. Lung volumes and capacities.
25. FEVI/FVC Ratio.
26. Symptoms of cardiovascular and respiratory diseases.
27. Normal ECG.
28. Pulse oximetry.
29. **Chest x-ray finding in pulmonary edema.**

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 10-Jun-2024

Time: Three Hours **Max. Marks: 80**

MEDICINE RELEVANT TO RESPIRATORY CARE TECHNOLOGY (RS-2)
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. Write in detail on the management and pathophysiology of COPD
2. Write in detail note on the management and pathophysiology of ARDS
3. Write in detail note on the types of pneumonia

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

4. Write a note on management of respiratory failure
5. Write a note on diagnosis and clinical features of COPD
6. Write in detail about the cardiogenic pulmonary edema
7. Write in detail on the management of pulmonary tuberculosis
8. Write a note on the clinical features, symptoms and diagnosis of asthma
9. Write a note on the atypical pneumonia
10. Write a note on the diagnosis and the management of pleural effusion
11. Write a note on the management of diabetes mellitus
12. Write a note on clinical signs, symptoms, diagnosis of myasthenia gravis
13. Write a note on management of status epilepticus

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

14. Types of hypoxia
15 Spirometry
16. Sepsis
17. Pneumothorax types
18. Types of shock
19. Atelectasis
20. Gullian – Barre syndrome
21. Occupational lung disease
22. Community Acquired Pneumonia (CAP)
23. Emphysema
24. Indications for oxygen therapy
25. Pneumothorax management

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 04-Jun-2024

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. Discuss aerosol therapy, characteristics of therapeutic aerosols, indications, contraindications and hazards.
2. Discuss cardiopulmonary exercise testing.
   OR
   Lung expansion therapy – Types, indications and complications.

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

3. Algorithm of advanced cardiac life support.
4. Intrapulmonary percussive verification.
5. Discuss bronchoscopy guided endotracheal intubation.
   OR
   Discuss in brief about impulse oscillometer.
6. Write a short note on Intercostal Drains' tubes.
7. Discuss in brief about extra corporeal membrane oxygenation.
8. Discuss in brief about ETCO2 (capnometry).
9. Dry powder inhalers.
10. Explain body Plethysmography.
    OR
    Endotracheal suctioning – Indications, techniques and complications.
11. 6-minute walk test.
12. Oxygen analyzers.

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

13. Pa02/Fio2 – normal values and classify ARDS based on the same.
14. Breathing valves.
15. Laryngeal mask airway.
16. State the following gas laws – Ficks's law, Henry's law, Graham's law.
17. Complications of Broncho provocation tests.
18. Humidifiers – Indications and types.
19. Mallamapti classification of airways.
20. Laryngoscopes.
21. Define with diagram – Total lung capacity, functional residual capacity, Expiratory reserve volume.
22. Indications of central venous catheterisation.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 10-Jun-2024

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. Tuberculosis – Etiology, types diagnosis and management.
2. Interstitial lung disease.
   OR
   Ventilator Associated Pneumonia (VAP).

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

3. Empyema.
4. Pulmonary involvement in systemic sclerosis.
5. Myasthenia gravis.
   OR
   Tension pneumothorax.
6. Gullian barre syndrome.
7. Myocardial infarction.
8. Features of carbon monoxide poisoning.
9. GINA guidelines.
10. Infective endocarditis.
    OR
    Types of Shock.
11. Types of Respiratory failure.
12. Mitral regurgitation.

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

13. Role of physiotherapy in COPD.
14. Differentiate between hemetemesis and hemoptysis.
15. Atelectasis.
16. Staging of carcinoma lung.
17. Air embolism.
18. Flail chest.
19. Drugs used in cardiac arrest.
20. Drugs used in stroke.
21. Mucolytic therapy.
22. Dry power inhaler therapy.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 21-Nov-2024

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. Classify bleeding disorders. Enumerate the different types of bleeding disorders and explain any one in detail.
2. Enumerate the types of chronic obstructive airway diseases. Briefly explain their cause and pathogenesis.

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

3. Sickle cell anemia pathophysiology and lab diagnosis.
4. Pulmonary congestion types and pathophysiology.
5. Discuss complications of artificial valves.
6. Megaloblastic anaemia lab diagnosis.
7. Bronchitis cause and pathophysiology.
8. Myocardial infarction morphological changes.

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

9. Types of IHD.
10. Mention the different methods of hemoglobin estimation.
11. List three causes of Leukocytosis.
12. Prothrombin time - definition and normal values.
13. **Farmers lungs.**

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 21-Nov-2024

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. Define hospital acquired infection. Discuss in detail the common hospital acquired infections and steps you will take to prevent these infections.
2. Discuss the pathogenesis and laboratory diagnosis of Typhoid fever and add a note on preventive measures for Typhoid.

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

3. Direct surface agar plating technique.
4. Quality control in sterilization.
5. Pathogenesis of Mycobacterium tuberculosis.
6. Ventilator associated pneumonia.
7. Central sterile supply department areas and floor plan.
8. Antimicrobial resistance.

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

9. Disinfectants used in a hospital.
10. List items that can be sterilized in an autoclave.
11. Plasma sterilization.
12. List three pathogens spread via blood borne route.
13. Transmission based precautions for airborne pathogens.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Nov-2024

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. Describe normal ECG – basic principles and interpretation in disease.
2. Respiratory failure – types, clinical condition and its management.
3. Oxygen therapy – protocol of oxygen therapy and briefly describe reservoir system.

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

4. Lung compliance.
5. Topography of heart.
6. Atelectasis – definition, types and management.
7. Humidity therapy and aerosol therapy.
8. Lung volume and capacity.
9. Signs and symptoms of cardiovascular system.
10. Ventilator associated pneumonia – definition and its management.
11. Indication, contraindications and hazards of spirometry.
12. Types of respiratory movement.
13. Safety precautions while handling medical gas cylinders.
14. Chest auscultation.
15. Examination of nervous system.
16. Gas laws.
17. Factors affecting communications and purpose of communication in health care setting.

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

18. Functions of upper airway.
19. Bronchopulmonary segments.
20. Deep breathing exercise.
21. Flow restrictors.
22. Cyanosis.
23. Muscles involved in respiration.
24. Oxygen dissociation curve.
25. Motor power grading.
26. Blood Pressure measurement.
27. Pulse oximeter.
28. Types of lung disease.
29. Functional residual capacity.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Nov-2024

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 glucocorticoids. Discuss the therapeutic uses and adverse effects of glucocorticoids

2. Classify drugs used in Bronchial Asthma. Discuss the mechanism of action, therapeutic uses and adverse effects of Salbutamol
   OR
   Classify NSAID's. Discuss the therapeutic uses and adverse effects of Aspirin

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

3. Therapeutic uses of β blockers
4. Therapeutic uses and contraindications of Morphine
5. Cardioplegic drugs
   OR
   Nitroglycerin
6. Halothane
7. Diazepam
8. Metoclopramide
9. Furosemide
10. Immunosuppressants
    OR
    Rifampicin
11. Therapeutic uses and adverse effects of Benzyl Penicillin
12. Bioavailability

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

13. **Rationale of combining Lignocaine with adrenaline.**
14. Name three mucolytics
15. Mention three uses of α blockers
16. Name three anti coagulants
17. Superinfection
18. **Rationale of using ethanol in methanol poisoning.**
19. Name three Antihistaminics
20. Name three skeletal muscle relaxants
21. Mention two uses and route of administration of Mannitol
22. Name three hypolipidemic drugs

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 28-Nov-2024

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. Describe normal ECG – basic principles and interpretation in disease.
2. Respiratory failure – types, clinical condition and its management.
3. Oxygen therapy – protocol of oxygen therapy and briefly describe reservoir system.

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

4. Lung compliance.
5. Topography of heart.
6. Atelectasis – definition, types and management.
7. Humidity therapy and aerosol therapy.
8. Lung volume and capacity.
9. Signs and symptoms of cardiovascular system.
10. Ventilator associated pneumonia – definition and its management.
11. Indication, contraindications and hazards of spirometry.
12. Types of respiratory movement.
13. Safety precautions while handling medical gas cylinders.
14. Chest auscultation.
15. Examination of nervous system.
16. Gas laws.
17. Factors affecting communications and purpose of communication in health care setting.

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

18. Functions of upper airway.
19. Bronchopulmonary segments.
20. Deep breathing exercise.
21. Flow restrictors.
22. Cyanosis.
23. Muscles involved in respiration.
24. Oxygen dissociation curve.
25. Motor power grading.
26. Blood Pressure measurement.
27. Pulse oximeter.
28. Types of lung disease.
29. Functional residual capacity.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Respiratory Care Technology Degree Examination – 02-Dec-2024

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. COPD-Etiology, diagnosis, clinical features and management.
2. Pneumonia – types, etiology, pathophysiology, clinical features, diagnosis and management.

   OR

   Management of ARDS.

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

3. Bronchiectasis.
4. Management of tension pneumothorax.
5. Silicosis.

   OR

   Pleural effusion.
6. Ventilator Associated Events (VAE).
7. Lung abscess.
8. Accelerated hypertension.
9. Obstructive sleep apnea syndrome.
10. Cardiac tamponade.

    OR

    Types of sleep apnea.
11. Pericardiatis.
12. Clinical features of carcinoma lung.

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

13. Classify Bronchodilators.
14. List anti-infective agents.
15. Fat embolism-clinical features.
16. Drugs used in acute coronary syndrome.
17. Types of respiratory failure.
18. Clinical features of mitral stenosis.
19. Congestive cardiac failure.
20. **Clinical features OF Guillian Barre Syndrome**
21. Clinical features of Cystic fibrosis.
22. Management of pulmonary embolism.

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