Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Examination – 03-Jan-2022

Time: Three Hours | Max. Marks: 100 Marks

Clinical care respiratory care technology Paper - I (RS2)

Q.P. CODE: 2929

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. Discuss bronchiectasis causes and management.
2. Discuss different types of interfaces used with non-invasive ventilators.
3. Discuss COPD management of acute exacerbation.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Aspiration pneumonia
5. Phenotypes of asthma
6. Postural drainage
7. Atypical mycobacteria
8. Cough assist devices
9. Pulse oxymeter
10. Six minute walk test
11. Metabolic acidosis
12. Isoniazid
13. Prednisolone
14. Clubbing
15. Diuretics

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. Bedside tests to assess pulmonary function
17. Aerosol therapy
18. Lidocaine and its toxicity
19. Hemoptysis causes
20. Allergic rhinitis
21. Pneumocystis jiroveci
22. Pulmonary edema
23. Humidification
24. Cystic fibrosis
25. Tropical eosinophilia
26. Air pollution
27. Pregnancy and lung

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B. Sc. Respiratory Care Technology Degree Examination – 05-Jan-2022

Time: Three Hours | Max. Marks:100 Marks

Applied Respiratory Care Technology -II (RS2)

Q.P. CODE: 2930

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. Indications, types, procedure, complications and care of tracheostomy
2. Operating modes of mechanical ventilation
3. Indications, protocol, complications and failure of Extubation

SHORT ESSAYS (Answer any ten) — 10 x 5 = 50 Marks

4. Hyperkalemia
5. Hyponatremia
6. Humidification therapy
7. Muscle relaxants in ICU
8. PEEP
9. Endotracheal suctioning
10. End-tidal capnography
11. Lung-protective strategies in ARDS
12. Troubleshooting of ventilator alarms
13. Commonly used artificial airways
14. Care of endotracheal and tracheotomy tubes
15. Metabolic alkalosis

SHORT ANSWERS (Answer any ten) — 10 x 3 = 30 Marks

16. Dead space ventilation
17. Ventilator-induced lung injury
18. Propofol
19. Causes of diffusion defects
20. Alarms in mechanical ventilation
21. Complications of intubation
22. Prone positioning in ICU
23. High-frequency oscillatory ventilation
24. Monitoring of arterial blood pressure
25. Causes of tachyarrhythmia
26. Respiratory acidosis
27. Causes of ARDS

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Degree Examination - 07-Jan-2022

Time: Three Hours | Max. Marks: 100 Marks

Advanced Respiratory Care Technology - III (RS2)

Q.P. CODE: 2931

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. Non-Invasive positive pressure ventilation. Indications, contraindications and complications.
2. Discuss respiratory management of OP poisoning.
3. Causes, clinical features and treatment of Pneumothorax

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Liquid ventilation
5. GB syndrome
6. Fluid and electrolyte disturbance in ICU
7. Indication of Oxygen therapy
8. High frequency ventilation
9. Weaning failure
10. Nitric oxide
11. Central oxygen supply
12. Indication and contraindications of pulmonary function test
13. Hypercalcemia and Hypocalcemia
14. Hyperbaric oxygen therapy
15. Methods of chest physiotherapy

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. Stridor
17. Near Drowning
18. Lung compliance
19. Oxygen saturation
20. Bronchospasm
21. Carbon dioxide narcosis
22. Ventilator settings for 15 Kg child
23. Hypothermia
24. Pressure support ventilation
25. Oxygen dissociation curve
26. Problems inherent to the neonate during ventilation
27. Tachycardia

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Examination – 05-Jul-2022

Time: Three Hours | Max. Marks: 100 Marks

Clinical care respiratory care technology - Paper - I (RS2)

Q.P. CODE: 2929

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 is humidification? What are the goals of humidification?
2. Explain pulmonary tuberculosis.
3. Explain pulmonary edema.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. What is the use of nebulizers?
5. What are the complications of manual resuscitators?
6. What is Capnography?
7. What is their use of pulse oximetry?
8. What are the factors influencing aerosol decomposition in lungs?
9. Explain ventilator associated pneumonia.
10. What do you mean gas analysis?
11. Explain the working of a pulse oxymeter.
12. What are the parts of artificial airways?
13. How do you care for a long term airway? What are the complications?
14. What are different types of face masks?
15. Hazards of oxygen therapy.

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. What are the types of oxygen deliver devices?
17. What is the use of pulse oxymeter?
18. What is the use of humidification?
19. What do you mean by hypercapnia?
20. What is intubation? What are its indications?
21. What is bronchial asthma?
22. What is atypical pneumonia?
23. How do you diagnose COPD?
24. What do you mean by cough?
25. What are fixed oxygen delivery devices?
26. How do you classify respiratory tract infections?
27. What are the types of nebulizers?

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B. Sc. Respiratory Care Technology Degree Examination – 07-Jul-2022

Time: Three Hours | Max. Marks:100 Marks

APPLIED RESPIRATORY CARE TECHNOLOGY -II (RS2)

Q.P. CODE: 2930

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. Oxygen therapy – indications, choice of devices and its toxicity
2. Chest physiotherapy – indications, steps and methods and contraindications
3. Step wise analysis of Arterial Blood Gas (ABG) and management of various metabolic and respiratory condition.

SHORT ESSAYS (Answer any ten) 10 x 5 = 50 Marks

4. Clubbing – pathophysiology and causes
5. Types of respiration
6. Haemoptysis – causes and management
7. Emergency management of cardiac arrhythmias
8. Pulse oximetry – principles and uses
9. Metabolic acidosis – causes and management
10. Salbutamol
11. Chest x-ray lateral view – technique and uses
12. Dead space ventilation – definition and factors affecting
13. High altitude pulmonary disease
14. Oxygen toxicity
15. Brain death

SHORT ANSWERS (Answer any ten) 10 x 3 = 30 Marks

16. Surfactant
17. Plateau pressure
18. Cyanosis
19. Functional residual capacity
20. Spirogram
21. ECG
22. CVP monitoring
23. Flexible bronchoscopy
24. Mixed venous oxygen saturation
25. HRCT
26. Hypercapnoea
27. Humidification

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Degree Examination - 11-Jul-2022

Time: Three Hours | Max. Marks: 100 Marks

Advanced Respiratory Care Technology - III (RS2)
Q.P. CODE: 2931

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 initiation of mechanical ventilation
2. Write a note weaning from mechanical ventilation
3. Write a note on negative pressure ventilation and ventilators

SHORT ESSAYS (Answer any Ten) — 10 x 5 = 50 Marks

4. Write a note on SBT
5. Write in detail on assist control mode and its phase variables
6. Write in detail indication, contraindication, complication of NIV
7. Write in detail on surfactant replacement therapy in neonates
8. Basic principles of neonatal ventilation
9. Write a note on normal and abnormal flow volume loops in PFT
10. Write a note on ventilating a COPD patient
11. Write a note on the effect of positive pressure ventilation on the heart
12. Write a note on the use of PEEP in left ventricular failure
13. High attitude
14. Write a note on weaning indices
15. Write a note on ventilating of poising case

SHORT ANSWERS (Answer any Ten) — 10 x 3 = 30 Marks

16. Cpap masks
17. Plateau pressure
18. Peak inspiratory pressure
19. Nyponatremia
20. Autopeep
21. Cardiac tamponade effect
22. Transpulmonary pressure gradient and its importance
23. Hyperventilation vs hyperinflation
24. Types of CPAP system
25. Indication for oxygen therapy
26. Compliance
27. Intubation

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Examination – 12-Dec-2022

Time: Three Hours | Max. Marks: 100 Marks

Clinical care respiratory care technology - Paper - I (RS2)

Q.P. CODE: 2929

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. Discuss about COPD. Management of acute exacerbation of COPD.
2. Arterial blood gas analysis.
3. Manual Resuscitators.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Endotracheal tube.
5. Humidification of inspired air.
6. Causes of Hypoxia. Clinical signs of hypoxia.
7. Diagnosis and management of ARDS.
8. Describe Nebuliser.
9. Describe respiratory failure.
10. Long term airway and its complications.
11. Pulmonary Function Testing.
12. What is cardiogenic pulmonary edema?
13. Assessment of oxygenation.
14. Pulmonary oedema.
15. Describe LMA.

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. Explain dyspnoea, hyperpnoea and hyperventilation.
17. Hazards of oxygen therapy.
18. Oral and nasal airway.
19. Describe aerosol therapy and its Hazards.
20. Community acquired pneumonia.
21. Sinusitis.
22. Stages of pneumonia.
23. Haemoptysis.
24. Clearance of airway secretion.
25. Lung abscess.
26. Tropical Eosinophilia.
27. Oxygen Hood.

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Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Respiratory Care Technology Degree Examination – 12-Dec-2022

Time: Three Hours Max. Marks: 100 Marks

Respiratory Technology – Clinical- Paper-I (RS-3)

Q.P. CODE: 3361

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. Write in detail on brain death and apnea tests
2. Write a note on types, pathophysiology and management of shock
   OR
   Define pulmonary rehabilitation. Mention the rationale for pulmonary rehabilitation and discuss the disease specific approach of pulmonary rehabilitation in patients with obstructive lung disease

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

3. Write a note on nutritional assessment status is chronic respiratory patients
4. Write in detail on resistance exercise training
5. Amniotic fluid embolism
   OR
   Write in detail on GI bleed
6. Write a note on pericardiocentesis
7. Intercostal drainage – indications site, procedure, contraindications and complications
8. Write a note on Ramsay's sedation scale
9. Skeletal muscle relaxants – classification and indications with two examples each
10. Write a note on vap bundle
    OR
    Write a note on respiratory assessment in patient with respiratory distress
11. Write a note on acute and chronic respiratory acidosis
12. Write a note n post cardiac arrest care

SHORT ANSWER 10 x 3 = 30 Marks

13. Anion gap
14. Oxygen dissociation curve and its significance
15. Scoring of sleep
16. Eclampsia
17. Apnea-hypopnea index
18. Sleep stages
19. Antidepressants
20. Six-minute walk test
21. Indication for oxygen therapy
22. Obstructive lung disease

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B. Sc. Respiratory Care Technology Degree Examination – 14-Dec-2022

Time: Three Hours | Max. Marks:100 Marks

Applied Respiratory Care Technology -II (RS2)

Q.P. CODE: 2930

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 ventilatory graphics for all functional modes according to pressure vs volume with phase variables
2. Write a note modes of ventilation
3. Write a note on pressure gradients and negative pressure ventilators

SHORT ESSAYS (Answer any ten) 10 x 5 = 50 Marks

4. Write a note on the types of compliances
5. Write in detail how a ventilator works
6. Write in detail on phase variables
7. Write in detail on airway resistance and the factors affecting it
8. Write a note PEEP, its types, indication, complications and contraindications of it
9. Write in detail on control circuit and the types of circuit, control variables
10. Write a note on capnograph and their abnormalities
11. Write in detail on mean airway pressure and its uses, harmful effects
12. Write a note on drive mechanism
13. Write in detail in improving oxygenation on a ventilator
14. Write a note on artificial airways
15. Write a note on endotracheal intubation

SHORT ANSWERS (Answer any ten) 10 x 3 = 30 Marks

16. Types of triggers
17. Plateau pressure
18. Peak inspiratory pressure
19. Alveolar ventilation
20. Dead space ventilation
21. Non-rebreathing mask
22. Trans-respiratory pressure gradient and its importance
23. Optimum PEEP
24. T-piece system
25. Harmful effects of oxygen therapy
26. Ventilator circuit care
27. Normal ECG

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Technology Degree Examination – 14-Dec-2022

Time: Three Hours | Max. Marks: 100 Marks

Respiratory Technology – Applied – Paper-II (RS-3)

Q.P. CODE: 3362

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. Modes of invasive ventilation.
2. Positive end expiratory pressure and CPAP.
   OR
   Bronchoscopy – Indications, contraindications and complications.

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

3. Septic shock.
4. Explain briefly the ventilation strategies in Neuromuscular disorders.
5. Assessment of airway.
   OR
   Traumatic brain injury.
6. Explain the basic pressure gradients.
7. Carbon monoxide poisoning and management.
8. Congestive heart failure and management.
9. Respiratory failure, clinical manifestations and management.
10. Air trapping with appropriate graphs.
    OR
    Phase variables and time constant.
11. Capnography.
12. Indications, contraindications and principles of MRI of thorax.

SHORT ANSWER 10 x 3 = 30 Marks

13. Arterial blood gas and its normal values.
14. Normal mechanics of spontaneous breathing.
15. Airway pressure monitoring.
16. Complication related to Central venous catheter.
17. Mallampatti classification.
18. Extubation criteria.
19. Accessory muscles of breathing.
20. Indication of PEEP.
21. Indication and exclusion criteria for inhaled nitric oxide.
22. Intrapulmonary shunt.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Respiratory Care Technology Degree Examination - 16-Dec-2022

Time: Three Hours | Max. Marks: 100 Marks

Advanced Respiratory Care Technology - III (RS2)

Q.P. CODE: 2931

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. Discuss indications, contraindications, initial ventilator settings and hazards of mechanical ventilation
2. Discuss neonatal mechanical ventilation including indications, basic principles and complications
3. Describe home mechanical ventilation: goals, indications, patient selection and equipment selection

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Weaning criteria and procedure
5. Ventilator alarm settings
6. Surfactant replacement therapy
7. High frequency ventilation
8. CPAP
9. Caisson's disease
10. Obstructive sleep apnea
11. Mechanical ventilation for patient of drowning
12. ABG analysis
13. Liquid ventilation
14. Oxygen toxicity
15. Ventilator settings for patient of type II respiratory failure due to COPD

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. Causes of weaning failure
17. Modes of neonatal mechanical ventilation
18. Patient interfaces in NIV
19. BiPAP
20. Strategies to prevent barotraumas
21. Pulmonary oedema
22. Causes of respiratory alkalosis
23. Correction of Hyperkalemia
24. VAP prevention bundle
25. Contraindications of NIV
26. Correction of hyponatremia
27. Ventilator settings for type I respiratory failure

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Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Respiratory Care Technology Degree Examination – 16-Dec-2022

Time: Three Hours | Max. Marks: 100 Marks

Respiratory Technology – Advanced – Paper-III (RS-3)

Q.P. CODE: 3363

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. Write in detail on congenital heart diseases and their management
2. Write a note on neonatal respiratory distress syndrome
   OR
   Discuss in detail the neonatal resuscitation and stabilization of newborns

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

3. Oxygen and Heliox therapy – indications, precautions, delivery devices and hazards
4. Extracorporeal membrane oxygenation and its importance in neonatal care
5. Discuss the different modes of ventilation used in mechanical ventilation of newborns
   OR
   Write in detail on surfactant replacement therapy in neonates
6. Write in detail on non-invasive ventilation for newborns
7. Write a note on inhaled nitric oxide therapy
8. Write a note on Apgar scoring and DOWN scoring
9. Write a note on weaning in newborns
10. Physiological effects of NIV in neonates
    OR
    Write a note on apnea of prematurity
11. Tracheoesophageal fistula and management
12. Write a note on central venous catheterization in neonates

SHORT ANSWER 10 x 3 = 30 Marks

13. Sites of temperature measurement and normal ranges
14. Parts of pediatric flexible bronchoscopy
15. Classification of surfactants with examples
16. Kangaroo mother care
17. Bubble cpap
18. Stages of fetal lung development
19. Hypothermia
20. Oxygen delivery devices
21. Complications of oxygen therapy
22. Clinical manifestation of respiratory distress in pediatrics