

B.Sc. RESPIRATORY THERAPY
THIRD YEAR
PAPER II – RESPIRATORY THERAPY TECHNIQUES - II
Q.P. Code: 802617

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Aerosol therapy.
2. Extra Corporeal Membrane Oxygen (ECMO) Therapy.
3. What is intercostal chest drainage? What are its indications and contraindications? List the steps of its insertion. What are the complications of inserting it?

II. Write Notes on:

(8 x 5 = 40)

1. Indications of Long Term Oxygen Therapy.
2. Describe the various suctioning methods.
3. Different types of humidification.
4. Indications and contraindications of suctioning methods.
5. Transport of critically ill patients.
6. HME vs heated humidifier.
7. Indications of oxygen therapy in an acute care hospital.
8. Difficult intubation.

III. Short Answers on:

(10 x 3 = 30)

1. Complications of suctioning methods.
2. High flow oxygen therapy.
3. Complications of oxygen therapy.
4. Complications after intubation.
5. Indications of humidification.
6. Draw the bottle system for connection after ICD in pneumothorax, without suction.
7. Preparation for endotracheal intubation.
8. Draw the bottle system for connection after ICD in pleural effusion with trapped lung, with suction.
9. Indications of endotracheal intubation.
10. Routes of endotracheal intubation.

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Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. What are the indications for endotracheal intubation? Explain difficult airway algorithm and management of difficult airway.
2. What is venturi principle? Explain with a schematic diagram, how does a venturi work? Advantages and disadvantage of venturi mask.
3. What are the ways to deliver aerosol therapy? Explain metered dose inhaler, indication, advantages and disadvantage.

II. Write Notes on:

(8 x 5 = 40)

1. Endotracheal suctioning – steps, indication and complication.
2. Types of humidifiers. Advantages and disadvantages.
3. ECMO – indication, advantage and complications.
4. Monitoring in transport of critically ill patients.
5. Intercostal drainage.
6. Nasal canula.
7. Can't intubate, Can't ventilate what will you do?
8. Oxygen toxicity.

III. Short Answers on:

(10 x 3 = 30)

1. Oral, pharyngeal, laryngeal axis – importance.
2. Signs and symptoms of inadequate humidification.
3. Different size and colour code of suction catheter.
4. Advantages of HME.
5. Indications of Oxygen Hood.
6. Percentage of oxygen delivered in Blue, Red, Green venturi.
7. Causes for difficult intubation.
8. Principle of rebreathing mask.
9. Importance of spacers in using inhalers.
10. Monitoring of humidifiers.

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Time: Three Hours

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Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. How will you assess and safely transport a critically ill patient as a Respiratory Therapist?
2. What are the indications for intubation? Enumerate difficult intubation algorithm and its management.
3. Define oxygen dissociation curve. What are the ways to deliver oxygen to tissues? Explain on low flow oxygen delivery devices.

II. Write Notes on:

(8 x 5 = 40)

1. Compare MDI and DPI.
2. ICD.
3. Principles of humidification.
4. Home oxygen concentrators.
5. ECMO – indication, complication, advantage and disadvantage.
6. Venturi mask.
7. Oxygen toxicity.
8. HME.

III. Short Answers on:

(10 x 3 = 30)

1. Draw and label bubble humidifier.
2. Hazards of aerosol therapy.
3. AMBU.
4. Difference between simple condenser humidifier and hygroscopic heat exchanger.
5. Complications of suctioning.
6. Different sizes and colour codes of suction catheter.
7. Mallampatti classification.
8. Indication for humidification.
9. What will you do in conditions where you 'can't ventilate and can't intubate'?
10. Troubleshooting of humidifiers.

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Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain oxygen cascade and its application.
2. Indication of Endotracheal intubation and difficult airway assessment for intubation and algorithm.
3. ECMO-types, indications and contraindications.

II. Write Notes on:

(8 x 5 = 40)

1. Insertion procedure of pneumothorax patient and draw and label the 2 bottle system.
2. Transport of critical ill patient.
3. Oxygen dissociation curve.
4. Difference between VC and PC mode.
5. Hyperbaric oxygen therapy.
6. Monitoring of mechanical ventilator patient.
7. Explain about CPAP – Draw the volume/time scalar of CPAP with PS mode.
8. HME Vs Heated humidifier.

III. Short Answers on:

(10 x 3 = 30)

1. Oxygen toxicity.
2. MDI.
3. Spontaneous breathing trial.
4. Suctioning.
5. Respiratory acidosis.
6. Nutritional balance of COPD patients.
7. Venturi principle.
8. Auto CPAP.
9. Draw and label the normal ECG.
10. Henderson – Hassel batch equation.

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Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Aerosol therapy – Types, indication and outcome assessment.
2. Explain oxygen cascade and its application.
3. Draw algorithm for difficult airway and explain the causes for difficult intubation.

II. Write Notes on:

(8 x 5 = 40)

1. ICD-procedure and its complications.
2. Indications for ECMO and its complications.
3. Oxygen dissociation curve.
4. Different types of humidification.
5. Describe low flow oxygen therapy.
6. Types of suctioning and its complication.
7. Combitube and its uses.
8. Bronchoscope and its clinical importance.

III. Short Answers on:

(10 x 3 = 30)

1. Types of hypoxia.
2. Venturi principle.
3. Indication of T-Piece trial.
4. Mallampati grades.
5. Confirmation of endotracheal intubation.
6. Explain parts of ET tube with diagram and its significance.
7. Rapid sequence intubation.
8. Advantages and disadvantages of MDI.
9. HME vs heated humidifiers.
10. Hazards of oxygen therapy.

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Time: Three Hours

Maximum : 100 Marks

Answer All questions

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

1. Describe the various problems in transport of critically ill patients.
2. Oxygen therapy – High flow and Low flow oxygen delivering devices.
3. Types of aerosol generators and its working principles.

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

1. Compliance, resistance and time constants.
2. Factors affecting dry powder inhaler (DPI) performance and drug delivery.
3. Care of tracheostomy tube.
4. Glasscow coma scale (GCS).
5. Disinfection of laryngoscope and bronchoscope.
6. Cricothyrotomy.
7. Alert, Verbal, Pain, Unresponsive (AVPU) scale.
8. Bottle systems in intercostal drainage (ICD).

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

1. Metabolic acidosis- types, formula for calculating Anion gap.
2. Indications and contraindications of transport of critically ill patients.
3. Parts of bronchoscope and its uses.
4. Vibrating mesh nebulizer.
5. Passive humidifier.
6. Bronchial toileting.
7. Hazards of oxygen therapy.
8. Spontaneous Breathing (SBT) Trial.
9. Parts of an Endotracheal (ET) tube.
10. Maximal inspiratory and expiratory pressures.

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 2617

**BACHELOR IN RESPIRATORY THERAPY
THIRD YEAR
PAPER II – RESPIRATORY THERAPY TECHNIQUES - II
*Q.P. Code: 802617***

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Define intubation, its routes and explain in detail the steps of orotracheal intubation.
2. Oxygen cascade and oxygen toxicity.
3. Pressurised metered dose inhaler (pMDI) and add a note on the use of pMDI in intubated patients.

II. Write Notes on:

(8 x 5 = 40)

1. Small volume nebulizers and factors affecting its performance.
2. Bedside methods for assessing endotracheal tube positioning.
3. Types of active humidifiers.
4. Malampati classification and cormack lehane classification.
5. Venovenous extracorporeal membrane oxygenation.
6. Transport of critically ill patients.
7. Describe the steps of extubation.
8. Percutaneous tracheostomy.

III. Short Answers on:

(10 x 3 = 30)

1. Cuff leak test.
2. Closed suctioning.
3. Indications and complications of oxygen therapy.
4. Heat and moisture exchanger (HME).
5. Fenestrated tracheostomy tube.
6. Self inflating bag.
7. List the high flow oxygen therapy devices with the total flows.
8. Factors affecting aerosol deposition.
9. Clinical signs and symptoms of inadequate humidification.
10. Methods of administration of hyperbaric oxygen therapy.

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

[AHS 0122]

JANUARY 2022

Sub. Code: 2617

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

**B.Sc. RESPIRATORY THERAPY
THIRD YEAR (Regulation from 2014-2015)
PAPER II – RESPIRATORY THERAPY TECHNIQUES - II
Q.P. Code: 802617**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Oxygen therapy – High flow and low flow oxygen delivering devices.
2. Draw algorithm for difficult airway and explain the causes for difficult intubation.
3. What is Venturi principle? Explain with a schematic diagram, how does a venturi work? Advantages and disadvantages of venturi mask.

II. Write Notes on:

(8 x 5 = 40)

1. Cricothyroidotomy.
2. Difference between VC and PC mode.
3. Explain about CPAP – Draw the volume/time scalar of CPAP with PS mode.
4. ECMO – indication, advantage and complications.
5. Intercostal drainage.
6. Describe the various suctioning methods.
7. Different types of humidification.
8. Indications and oxygen therapy in an acute care hospital.

III. Short Answers on:

(10 x 3 = 30)

1. Metabolic acidosis – types, formula for calculating Anion gap.
2. Parts of bronchoscope and its uses.
3. Bronchial toileting.
4. Spontaneous Breathing (SBT) Trail.
5. Maximal inspiratory and expiratory pressure.
6. Types of hypoxia.
7. Indication of T – Piece trail.
8. Mallampati grades.
9. What will you do in conditions where you ‘can’t ventilate and can’ intubate?
10. Indications of Oxygen Hood.

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

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 2617

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

**B.Sc. RESPIRATORY THERAPY
THIRD YEAR (Regulation from 2014-2015)
PAPER II – RESPIRATORY THERAPY TECHNIQUES - II
Q.P. Code: 802617**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Extra Corporeal Membrane Oxygen (ECMO) Therapy.
2. What are the indications for endotracheal intubation? Explain difficult airway algorithm and management of difficult airway.
3. Describe the various problems in transport of critically ill patients.

II. Write Notes on:

(8 x 5 = 40)

1. ICD.
2. Venturi Mask.
3. Oxygen dissociation curve.
4. Different types of humidification.
5. Combitube and its uses.
6. Bronchoscope and its clinical importance.
7. Glasgow Coma Scale (GCS).
8. Alert, Verbal, Pain, Unresponsive (AVPU) scale.

III. Short Answers on:

(10 x 3 = 30)

1. Oral, Pharyngeal, Laryngeal axis – importance.
2. Different size and colour code of suction catheter.
3. Hazards of aerosol therapy.
4. AMBU.
5. MDI.
6. Respiratory acidosis.
7. Nutritional balance of COPD patients.
8. Auto CPAP.
9. Draw and label the normal ECG.
10. Henderson – Hasselbalch equation.

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

[AHS 0423]

APRIL 2023

Sub. Code: 2617

**B.Sc. RESPIRATORY THERAPY
THIRD YEAR (Regulations 2014-2015 & 2018-2019 onwards)
PAPER II – RESPIRATORY THERAPY TECHNIQUES - II
*Q.P. Code: 802617***

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. What is Intercostal Chest Drainage? What are its indications and contraindications? List the steps of its insertion. What are the complications of inserting it?
2. What are the ways to deliver Aerosol Therapy? Explain metered dose inhaler, indications, advantages and disadvantages.
3. Define Oxygen Dissociation Curve. What are the ways to deliver Oxygen to tissues? Explain low flow oxygen delivery devices.

II. Write Notes on:

(8 x 5 = 40)

1. Compliance, resistance and time constants.
2. Factors affecting Dry Powder Inhaler (DPI) performance and drug delivery.
3. Care of Tracheostomy tube.
4. Disinfection of Laryngoscope and Bronchoscope.
5. Home oxygen concentrators.
6. Nasal cannula.
7. Oxygen Toxicity.
8. Difficult intubation.

III. Short Answers on:

(10 x 3 = 30)

1. Vibrating mesh nebulizer.
2. Passive humidifier.
3. Parts of an Endotracheal (ET) tube.
4. Rapid sequence intubation.
5. Suctioning.
6. Different size and colour code of suction catheter.
7. Principle of rebreathing mask.
8. Importance of spacers in using inhalers.
9. Preparation for endotracheal intubation.
10. Draw the bottle system for connection after ICD in pleural effusion with trapped lung, with suction.

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 2617

B.Sc. RESPIRATORY THERAPY

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

PAPER II – RESPIRATORY THERAPY TECHNIQUES - II

Q.P. Code: 802617

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. What is Venturi principle? Explain with a schematic diagram, how does a Venturi work? Advantages and disadvantage of Venturi mask.
2. What is LTOT? What are the indications of LTOT? Mention diseases that require administration of oxygen therapy. Describe short burst oxygen therapy.
3. ECMO-types, indications and contraindications.

II. Write Notes on:

(8 x 5 = 40)

1. Oxygen toxicity.
2. Transport of critically ill.
3. Different types of Humidification.
4. Role of Bronchoscopy in ICU.
5. Indications of Intercostal drainage.
6. Rapid sequence intubation.
7. ET Aspirate.
8. Mallampati classification.

III. Short Answers on:

(10 x 3 = 30)

1. Advantages of HME.
2. Role of Laryngoscopy in ET intubation.
3. AMBU.
4. AUTO CPAP.
5. Indications of Oxygen Hood.
6. Home oxygen concentrators.
7. Types of hypoxia.
8. Percentage of oxygen delivered in Blue, Red, Green Venturi.
9. Complications after ET intubation.
10. Indications for Tracheostomy.
