[LL 0817] AUGUST 2017 **Sub.Code :2617**

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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[LM 0218] FEBRUARY 2018 **Sub. Code: 2617**

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. 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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[LN 0818] AUGUST 2018 **Sub. Code: 2617**

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. How will you asses 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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[LO 0219] FEBRUARY 2019 **Sub. Code: 2617**

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. 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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[LP 0819] AUGUST 2019 **Sub. Code: 2617**

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 – 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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[LQ 0220] FEBRUARY 2020 **Sub. Code: 2617**

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. 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. Cricothyrodotomy.
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.

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

[LR 1220] **DECEMBER 2020** **Sub. Code: 2617**
(AUGUST 2020 EXAM SESSION)

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. Veno-venous 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.

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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. Mallmpati grades.
9. What will you do in conditions where you ‘can’t ventilate and can’ intubate?
10. Indications of Oxygen Hood.

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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.

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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.

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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.

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

[AHS 0424] **APRIL 2024** **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 Rapid Sequence Intubation (RSI)? What are its indications? What are the steps in RSI?
2. Classify Oxygen Delivery Devices. Describe the principle of Venturi Device and its advantage over other delivery devices.
3. Aerosol Therapy – Types, Indications and Complications.

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

1. Indications of Intercostal Drainage (ICD) and steps of ICD placement.
2. Bronchoscopy in Intensive Care Unit.
3. Types of Humidification and mention its advantages and disadvantages.
4. Difficult Intubation.
5. Types of Inhalers.
6. Glasgow Coma Scale (GCS).
7. ECMO therapy.
8. Suctioning – Types, advantages and disadvantages.

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

1. Heat Moist Exchanger (HME).
2. Spontaneous Breathing Trial (SBT).
3. Laryngeal Mask Airway (LMA).
4. Draw and label two bottle Intercostal Drainage (ICD) system.
5. Hazards of Oxygen Therapy.
6. Care of Tracheostomy patients.
7. Monitoring Oxygenation and Ventilation in ICU.
8. Assessment of Respiratory Muscle strength at bedside.
9. Invasive BP monitoring.
10. Compliance.

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

[AHS 0125] **JANUARY 2025** **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. Define Low flow oxygen delivery devices. Explain about it types and indication of Low flow oxygen delivery devices.
2. Indications of Endotracheal Intubation and explain the algorithm of difficult airway assessment for intubation.
3. Define a Humidifier. Write the principles of Humidifier and explain about the different types of Humidifying devices.

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

1. Indications of Intercostal Drainage (ICD) and steps of ICD placement.
2. Static and Dynamic Lung Compliance.
3. Glasgow Coma Scale (GCS).
4. Laryngeal Mask Airway.
5. Dry Powder Inhaler and its advantages.
6. Bohr Effect and Haldane Effect.
7. Richmond Agitation-Sedation Scale (RASS).
8. Transport of critically ill patients.

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

1. Invasive BP Monitoring.
2. Prevention of aspiration in unconscious patients.
3. Venturi mask.
4. Use of Spacers with pMDI.
5. Types of Suctioning.
6. Tracheostomy care in ICU.
7. Oral, Pharyngeal, Laryngeal axis – importance.
8. Assessment of Respiratory Muscle strength at bedside.
9. What is Hoover sign?
10. Types of Hypoxia.

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

[AHS 0425] **APRIL 2025** **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. Intercostal drainage tube – its indications and contraindications. Mention its complications and points for proper ICD care.
2. Draw Oxygen dissociation curve and explain about P50. Write the factors affecting the shift of oxygen dissociation curve. Explain about Bohr effect and Haldane effect.
3. Define Venturi Principle. Explain different types of venturi device used. Write down the advantages and disadvantages of it.

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

1. Explain the three key mechanisms of Aerosol Deposition.
2. Write about ET tube intubation – Indication, Routes and Complications.
3. Principles and different types of Humidifiers.
4. Types of Accessory Inhaler Devices for polymeric Metered Dose Inhaler (pMDI) and explain about Valved Holding Chambers (VHCs).
5. Indications and complications of Hyperbaric oxygen therapy.
6. Bland Aerosol therapy and types of aerosol generators.
7. ECMO therapy and its types.
8. Oxygen toxicity.

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

1. Write the complications of Suctioning.
2. Spontaneous Breathing Trial (SBT).
3. High flow oxygen therapy.
4. Indwelling pleural catheter.
5. Principle of Incentive Spirometry.
6. Write any 3 Indications of Tracheostomy.
7. Aerosol Therapy in ICU.
8. Sabrasez Test for bedside pulmonary function assessment.
9. Bronchial Thermoplasty.
10. Lung Compliance.

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

[AHS 1125] **NOVEMBER 2025** **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. Indications, devices and drawbacks of high-flow oxygen therapy.
2. What are the different types of inhalers? Describe their advantages and disadvantages.
3. Describe the various modalities of Extracorporeal Membrane Oxygenation, as well as its indications and complications.

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

1. Indications of aerosol therapy.
2. Why is humidification important during mechanical ventilation?
3. What are the complications associated with endotracheal suctioning?
4. Describe the key components of Respiratory monitoring.
5. What are the common methods of sedation and analgesia scoring?
6. How do you ensure the safe transport of critically ill patients?
7. Indications for Intercostal chest drain.
8. Indications for endotracheal tube insertion.

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

1. What are the steps to ensure the proper functioning of an intercostal drainage system?
2. How do you assess respiratory muscle strength?
3. How is invasive blood pressure monitoring done?
4. What does the AVPU scale stand for?
5. Enumerate components of Glasgow Coma Scale.
6. Enumerate various Low-flow oxygen delivery systems.
7. Care of patient on Tracheostomy.
8. Complications of humidification therapy.
9. Drawbacks of nebulization therapy.
10. What are the signs of a blocked chest tube? How do you rectify it?

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