

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

[AHS 0122]

JANUARY 2022

Sub. Code: 1237

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

B.Sc. CRITICAL CARE TECHNOLOGY

THIRD YEAR (Regulations from 2014-2015, 2015-2016 & 2018-2019)

PAPER II – ICU THERAPY

Q.P. Code: 801237

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Modes of Ventilation.
2. Weaning and Extubation.
3. Fluid resuscitation and Inotropes.

II. Write notes on:

(8 x 5 = 40)

1. Work of breathing.
2. Tidal volume.
3. Ventilator settings.
4. Care of Chest tube.
5. Pericardiocentesis.
6. Cricothyrotomy.
7. Humidification.
8. Incentive spirometry.

III. Short answers on:

(10 x 3 = 30)

1. MDI.
2. Modes of Dialysis.
3. Cuff pressure.
4. Terminal weaning.
5. FiO₂.
6. PEEP.
7. Dobutamine.
8. Adenosine.
9. Types of NIV.
10. Mask ventilation.

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

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 1237

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

**B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations from 2014-2015, 2015-2016 & 2018-2019)
PAPER II – ICU THERAPY
Q.P. Code: 801237**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Classification, clinical manifestations and treatment of Burns.
2. Basics of renal replacement therapy.
3. Fibre optic bronchoscopy.

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

1. Therapeutic aerosols.
2. What are all ionotropes used in various types of shock in ICU patients?
3. Reasons for ventilator dependence.
4. Caring of ICD tubes and drain system in ICU.
5. Tracheostomy.
6. Basic life support.
7. Hand hygiene.
8. Extubation.

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

1. What is MILS and other methods for cervical stabilization?
2. Types of nebulizers.
3. Drugs used in ACLS and its dose.
4. ECMO.
5. Atropine.
6. Name two methods to decrease airway resistance.
7. Humidification.
8. Defibrillator.
9. Pressure support.
10. Confirmation of ET tube placement.

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

[AHS 0423]

APRIL 2023

Sub. Code: 1237

**B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations 2014-2015, 2015-2016 & 2018-2019 onwards)
PAPER II – ICU THERAPY
Q.P. Code: 801237**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Tracheal intubation.
2. Care of unconscious patient.
3. Ventilator settings.

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

1. Primary survey in trauma.
2. Advanced life support.
3. Suctioning and chest physiotherapy.
4. Abdominal compartment syndrome.
5. Manual inline stabilization.
6. Humidification.
7. Post extubation care.
8. Complications of NIV.

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

1. Indications for tracheostomy.
2. Dopamine.
3. Pressure sore.
4. Mask ventilation.
5. Salbutamol.
6. Epidural analgesia.
7. Cuff pressure and its importance.
8. Classification of burns and how will you assess the percentage of burns?
9. Modes of Dialysis.
10. Weaning and extubation.

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

[AHS 0424]

APRIL 2024

Sub. Code: 1237

**B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations 2014-2015, 2015-2016 & 2018-2019 onwards)**

PAPER II – ICU THERAPY

Q.P. Code: 801237

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe the Basic Life Support Algorithm. Enumerate the Quality Markers for Good Quality CPR.
2. Outline the general supportive treatment in the management of Organophosphorus compound poisoning. What are the steps to be taken when such a patient becomes Hypoxic?
3. Describe management of Airway in an unconscious patient who does not have a definitive airway. Add a note on management of airway in patient with suspected Cervical Spine Injury.

II. Write notes on:

(8 x 5 = 40)

1. Define Incentive Spirometry.
2. Weaning protocol and difficulties in weaning.
3. How would you Troubleshoot a low-pressure alarm on Ventilator?
4. Cricothyrotomy.
5. Primary Survey in Trauma.
6. Nutrition support in ICU patient.
7. Abdominal Compartmental Syndrome.
8. Fluid Resuscitation in Circulatory shock.

III. Short answers on:

(10 x 3 = 30)

1. List the advanced mode of ventilation.
2. Management of Auto PEEP.
3. Indications of Renal Replacement Therapy (Dialysis).
4. Indications for Non-Invasive Ventilations.
5. Definition of Ventilator Associated Pneumonia.
6. Drug that are used in Rapid Sequence Induction for intubation.
7. List the precautions for prevention of Bed sores in ICU patients.
8. Types of Humidifiers.
9. List the different methods of Prevention of Deep Vein Thrombosis (Thrombo-Prophylaxis).
10. Infection control practice used in ICU.

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

[AHS 0125]

JANUARY 2025

Sub. Code: 1237

B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations 2014-2015, 2015-2016 & 2018-2019 onwards)
PAPER II – ICU THERAPY
Q.P. Code: 801237

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Describe the approach for weaning a patient off Mechanical ventilation. How will you check a patient's readiness for extubation?
2. Enumerate the Airway management for unconscious patient. Add a note on management of Airway in patient with suspected cervical spine injury.
3. Describe the Basic Life Support Algorithm. Enumerate the quality markers for good quality CPR.

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

1. Nutritional support in ICU patients.
2. Percutaneous Tracheostomy care.
3. Humidifier devices used in ICU.
4. Automated External Defibrillator (AED).
5. Fluid resuscitation in circulatory shock.
6. ECMO.
7. Nebulization.
8. Management of Ventricular Fibrillation.

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

1. List the precautions for prevention of bed sores ICU patients.
2. Indication and patient selection for Non Invasive Ventilation.
3. Toxidrome in Organophosphorus poisoning.
4. Types of Shock.
5. Define Chest physiotherapy.
6. Pressure support.
7. Define Work of breathing.
8. Dobutamine.
9. Universal Precaution.
10. Confirmation of ET tube placement.

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

[AHS 0425]

APRIL 2025

Sub. Code: 1237

B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations 2014-2015, 2015-2016 & 2018-2019 onwards)
PAPER II – ICU THERAPY
Q.P. Code: 801237

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Classify Oxygen delivery devices, elaborate on venturi device.
2. Explain the aerosol drug delivery system in detail. Add a note on characteristics of therapeutic aerosols and hazards of aerosol therapy.
3. Explain in detail about Non-Invasive ventilation, Types, Goals and indications, patient selection and exclusion criteria for NIV.

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

1. Primary Survey in Trauma.
2. Fluid and Electrolyte balance in burns patient.
3. Inspiratory resistant exercises.
4. Tracheal intubation.
5. Types of inhaled drug therapy and advantage of each type.
6. Universal precautions.
7. Care of Unconscious patient.
8. Inotropes.

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

1. Enlist any three causes of extubation failure.
2. List the indications for renal replacement therapy (Dialysis).
3. Define Abdominal compartment syndrome.
4. Management of Auto-PEEP(Positive End Expiratory Pressure).
5. Define Cricothyrotomy.
6. Write any four steps in care of Fracture.
7. Define Parenteral nutrition.
8. Classification of Burns.
9. Name two methods to decrease airway resistance.
10. List any three Drugs used in ACLS(Advanced Cardiac Life Support) and its dose.

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

[AHS 1125]

NOVEMBER 2025

Sub. Code: 1237

B.Sc. CRITICAL CARE TECHNOLOGY
THIRD YEAR (Regulations 2014-2015, 2015-2016 & 2018-2019 onwards)
PAPER II – ICU THERAPY
Q.P. Code: 801237

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Write in detail about the Burn assessment, pathophysiology, Clinical manifestation, Diagnosis and treatment modalities.
2. Mention the indications, contraindications and procedure of Pericardiocentesis.
3. Write the indication of Airway pressure released ventilation mode and explain in detail about functioning of airway pressure released ventilation mode.

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

1. Types of NIV.
2. Peritoneal Dialysis.
3. Post Resuscitation care.
4. Fiber optic Bronchoscopy.
5. Incentive spirometry.
6. Advantages and disadvantages of humidifier.
7. Patient evaluation and preparation of patient for weaning.
8. Characteristics and Hazards of Therapeutic aerosols.

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

1. List the Precautions for Prevention of Bed Sore ICU patients.
2. List the Causes of Ventilator Dependence.
3. Indications of Intra-Aortic Balloon Pump.
4. Drugs used in Rapid Sequence Intubation.
5. Indications of cricothyrotomy.
6. Three reasons for Extubation failure.
7. Draw the Sequences of Basic Life Support.
8. Golden Hour.
9. Metered Dose Inhaler.
10. Indications for ECMO.
